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GUIDE TO THE WORLD OF ONLINE SERVICES

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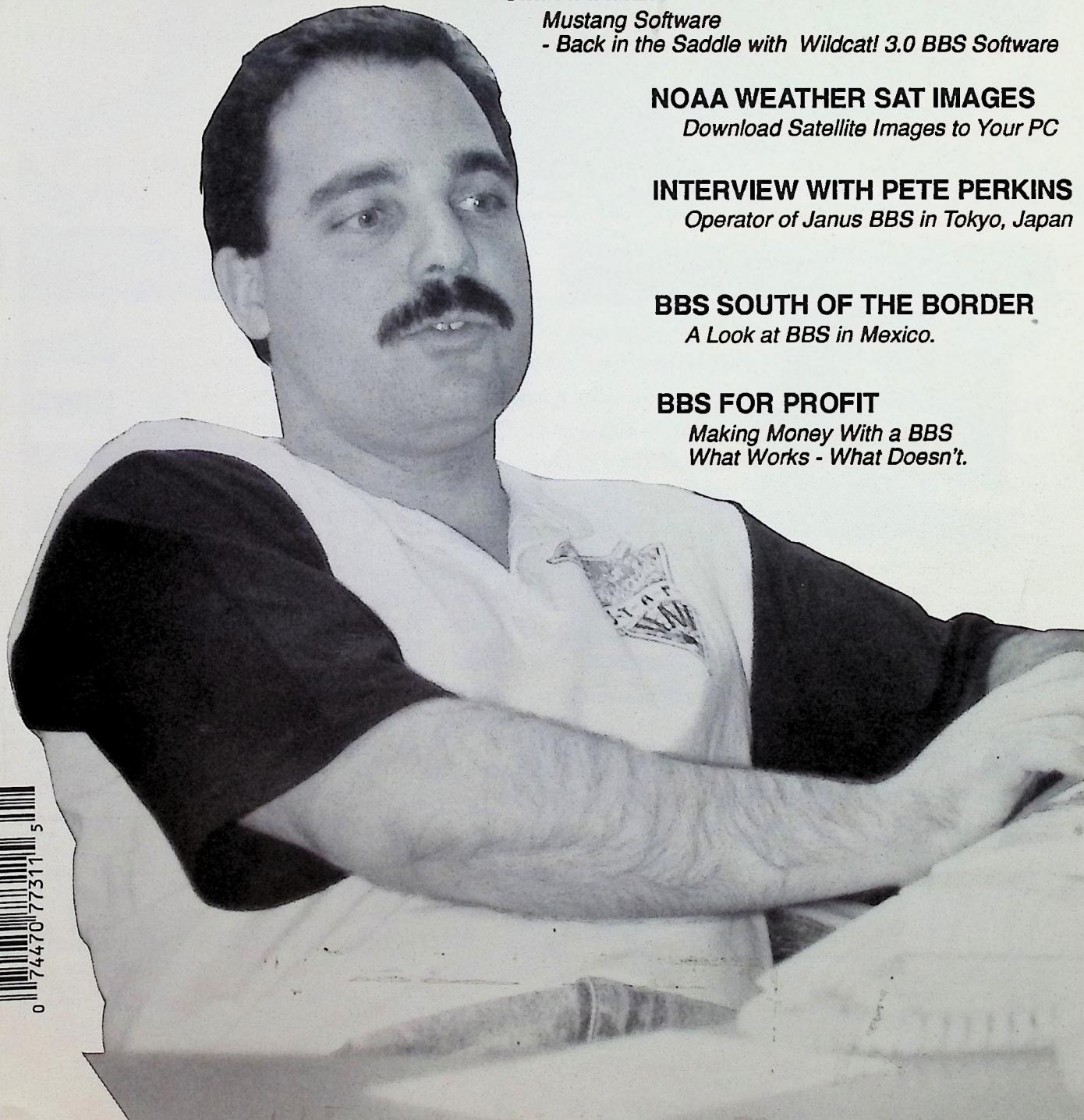
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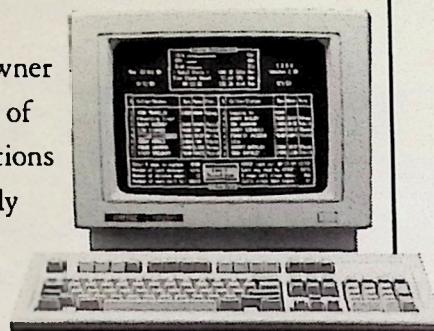
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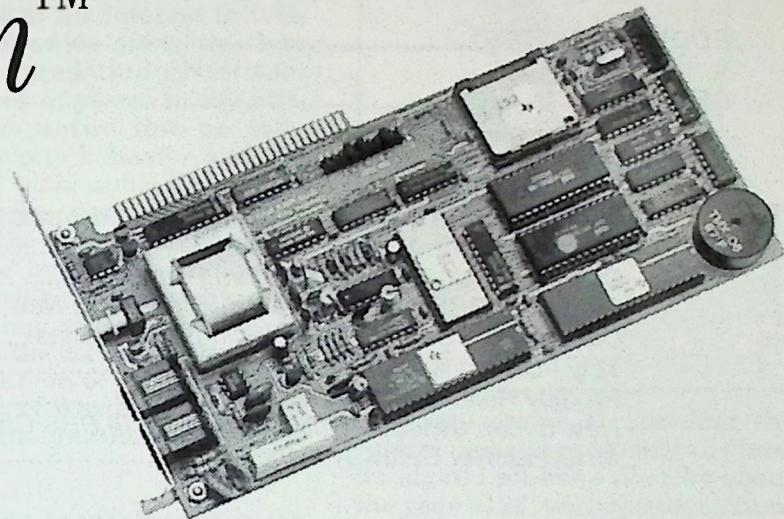
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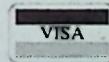
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BOARDWATCH MAGAZINE

EDITOR'S NOTES.....	5
LETTERS.....	6
TELEBITS	
<i>NIST Proposes Signature Standard for Electronic Documents.....</i>	<i>7</i>
<i>IBM Celebrates 10th Anniversary of PC.....</i>	<i>8</i>
<i>Consortium of AntiVirus Vendors Formed.....</i>	<i>8</i>
<i>The Major BBS Gains Novell LAN Access in New Version 5.3.....</i>	<i>8</i>
<i>Canada's Largest BBS Expanding to 143 Lines</i>	<i>8</i>
<i>Tiny I-Comm Radio Scanner.....</i>	<i>9</i>
<i>Prodigy Releases Privacy Utility Diskette</i>	<i>9</i>
<i>New Sysop Utilities Highlight Wildcat 3.0! BBS Convention.....</i>	<i>10</i>
<i>MHS/FidoNet Gateway in the Works</i>	<i>12</i>
 INTERVIEW WITH SYSOP PETE PERKINS OF JANIS II IN AKIHABARA JAPAN 13	
BULLETIN BOARDS AS A BUSINESS - HOW TO MAKE MONEY WITH A BBS 22	
BBS SOUTH OF THE BORDER A LOOK AT MEXICO..... 34	
 LONG DISTANCE USA	
<i>EPA Clean Air BBS.....</i>	<i>37</i>
<i>NOAA Weather Satellite Photos Online</i>	<i>38</i>
<i>San Diego Yachting News BBS.....</i>	<i>39</i>
 THIS MONTH'S FEATURED CITY - SAN DIEGO CALIFORNIA - 300 BBS..... 40	
<i>Boardwatch List of BBS Lists</i>	<i>47</i>
<i>BBS Classified Ads</i>	<i>48</i>
<i>Boardwatch National Select List of BBS.....</i>	<i>50</i>

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EDITOR'S NOTES

The telephone company, or companies now for these past seven years, are a bit of an enigma. All BBS, online technology, fax transmissions, and other delightful developments we cover so avidly here in Boardwatch begin and end at an RJ-11 jack they ultimately provide the juice to power. Despite detracting claims, our telephone system is actually pretty reliable and works quite well. And almost all technological developments in communications, no matter how cunning in design, require at least a semblance of universal availability to do anyone any good at all. The telephone companies, and they alone, have the power to make such connections available nationwide in a short period of time.

My grandfather persuaded me to invest modestly but regularly in AT&T back in 1973 and I did so for several years. The 1984 divestiture provided me a reasonably enormous windfall that should place me firmly in the ranks of telephone fans forever. Further, many of the individuals I know working for telephone companies are good friends and good people all around.

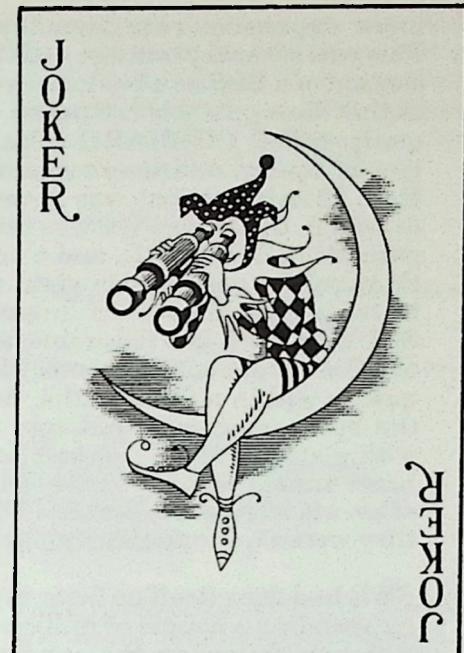
That said, I rank the business practices of telephone companies, airlines, boiler room telemarketeers offering guaranteed credit for \$50, and guys selling wristwatches from their trunk in parking lots all on about the same moral plane. Whenever I begin to think some of the criticism of telephone companies is reaching the point of overdone, they step forward to reassure me that they are indeed Godless heathen robber barons bent on the enslavement of western civilization. Fortunately, their efforts are usually not only morally and quite often legally bankrupt, but just inept enough as well to keep us all safe. It's usually of the form of "we'll get our paid for Congressmen to pass a law requiring everyone in the country to have a telephone, raise their monthly basic rate to \$900, and then exempt everyone who has a 9 on their

dial pads". Brutish, cruel, vicious, Machiavellian, but fortunately comically ineffective.

Judge Greene has taken a lot of heat for his iron-fisted treatment of RBOC and the Modified Final Judgment since divestiture. I don't know the man personally but I've been aware of his interest in telephone companies since the late seventies - predating divestiture by a number of years. In my estimation, his entire line on telephone company behavior and the dangers of their unbridled greed, while sounding impossibly shrill, is right on the mark. I consider him one of the brightest and most knowledgeable people on this subject breathing. And it's further my belief that the RBOC have spent over \$20 million of your money to buy enough of Washington D.C. to castrate this one man somewhat publicly.

The question is whether it is for good or ill. We are embarking, for all the worst of reasons, including greed, bribery, politics at its absolute shabbiest, and worse, on a "free the Bells" legislative spree of unprecedented scope. Within the next year I expect to see not only the restrictions on online information lifted, but those on manufacture of equipment, long distance carrier status, and most significantly, access to deliver video by telephone wire. What I can't foresee is whether this will lead to the aforementioned enslavement of western civilization, or whether we are just giving the telephone companies howitzers to blow their own feet off rather than the squirt guns they have now. In the long run, I can't believe either scenario is in our best interests.

In the short run, it is tempting. Never mind the ridiculous claims of the RBOCS of all the neat stuff they will implement once freed from the chains of "information content" restrictions. Most of it is geekish fluff for the sub-80 IQ general press club. None of it will come to pass. But there are some other factors. Cable TV is one of them. The online world is going to need glass, fiber optics, to every home in order to fulfill its ultimate potential. If we wait until the telcos see a large enough market in data



communications to shoulder the capital investment to install glass, we should all have fiber by about the year 3125, perhaps seven hundred years after interstellar space flight becomes routine enough to be attractively priced for the masses.

On the other hand, if telcos can deliver MTV by fiber, they will not only glass over the entire nation by Christmas, but they'll decapitate the current cable TV companies within just a few years after. And wouldn't that be a shame. With this TV competition, we might enjoy the \$7 monthly cable TV we were promised a few years back, before TCI discovered they could charge \$20 monthly for it and there was nothing we could do but bite the bullet. So near term, we'll get glass and by default a VERY high speed data channel, and probably cheaper television as well.

As to the RBOC entry into information services, Greene's warnings of unfair competitive moves on the part of the RBOC are very real. A few years ago, Southwestern Bell started a gateway service titled SOURCELINE. Approximately the same time it went online, they sent letters to all the BBS operating in Houston notifying them that their telephone bills were hereby doubled if they wanted to continue operation because they were operating a "business" and fell under a different and

more expensive rate structure. This was several years ago and the concept of a BBS as a business was at that time patently ridiculous. A group called COSUARD (Coalition of Sysops and Users Against Rate Discrimination) was formed to fight it, the Texas PUC was sympathetic to COSUARD, and a battle raged for over a year, right up to the month that SWB dropped SOURCELINE as a miserable failure. The attack on BBS was settled quietly within a few months. And the spokesman for SWB told us with a straight face - serious as a heart attack - that the entire string of events were coincidental, and if they weren't, you couldn't prove it.

SWB had done itself no favor at all by spending a couple of million on a riotous failure in the annals of the online world. But in the process they virtually defrauded several hundred information providers of thousands of dollars based on promises of riches beyond imagining that never came to pass, and still managed to beat up on a bunch of hobbyists running single line BBS systems out of their rent money.

I'm seriously unconcerned about the RBOC running competitive information services. Their track history as information gateway operators is reassuringly abysmal. They really just want to sell online yellow pages and I say that's just great. Much as Prodigy has done the BBS market a world of good by broadening the base of people online for us all, I think the RBOC could do an even better job of it. Imagine being able to dial up a yellow pages service online, type in a product by brand name, and retrieve all the places in town that carried it, complete with addresses and telephone numbers. Select a retailer, click on an icon and connect directly to one of THEIR services with a complete catalog, compare prices, and enter an order online! I'd love it. America would love it. And the 5% of the population online now would become 15% in a heartbeat, 30% within just a few years. All good for local BBS. All good for consumers.

One problem with this is that to do business effectively, you will need to have your products listed in the

yellow pages, your online order service connected to the yellow pages, and the telephone company will own this monopoly outright. If you've checked the price of a yellow pages ad, or dealt with them about one, you know the problem there. But further, I also fear that anyone online, or anyone yellow, or anyone with pages, will be stomped out of existence "just in case" in the process. The telco, like the elephant among mice, can't tell very well who is competition and who is not. Apparently, SWB actually perceived the hobby BBS operators in Houston as a threat to their gateway. And the RBOC seem to have a Sgt. Rock "shoot em all, send em to heaven, and let Jesus sort em out" approach to anyone who might compete with them on anything.

The basic solution is the same one we came up with seven years ago. Divestiture. We broke up a monopoly and today enjoy 45% lower long distance bills, in a competitive environment, and noticeably higher local telephone bills, where it's yet a monopoly. For some reason it's not widely known, but in addition to paying for local service, about 45% of your LONG DISTANCE bill is to cover payments from your long distance carrier to local RBOC for the privilege of "access" as well. If we're really going to deregulate the local RBOC and allow them into businesses such as information, cable TV, telephone equipment manufacture, and more that should be competitive, let's do the whole road show and open the local loop to competition as well. Let every man with a wire truck and a pair of pliers offer local telephone service.

On another subject, this issue marks a couple of changes. We've gone to a finer paper so you can actually tell what's in some of our photos. While experimental, we plan to continue it if it works. You may also note a dramatic decrease in interesting tidbit stories in this issue. This is NOT experimental and NOT the way we're going. We had a couple of longer features we needed to knock off in one issue and this is it. I had been asked to give a couple of classes on "making your BBS profitable" at the FidoCon'91 convention and we've re-

ceived an enormous number of inquiries from people who couldn't attend the convention but wanted to know how to do it anyway. The gist of the session at FidoCon on profit techniques is presented herein in response to those requests. I don't like doing stories of that length in Boardwatch, and we'll be back next month with lots of short, useful notes on who's got the good stuff and where you can get it as always. Stay with us. If we already knew how to do a magazine, it wouldn't be any fun for you or us, and I'd probably be writing disassembly instructions for Waring Blenders or something.

LETTERS

Direct correspondence to Letters to the Editor, Boardwatch Magazine, 5970 South Vivian St., Littleton, CO 80127. FAX (303)973-3731

Dear Jack:

I'm concerned about a chicken-and-egg problem which is keeping the 9600 bps market from taking off like it should. While it is apparent that many BBS users are buying 9600 bps modems, it seems that what would give an extra nice kick to the market would be if the large information services you know, those that have zillions of subscribers would reduce their 9600 rates from the stratosphere, where they currently reside. It costs \$22.50 per hour to access CompuServe, and \$18.00 per hour (with no *Basic Service access) on GEnie. The GEnie folk say that they might consider reducing their rates if more people would use 9600 bps access, but at those rates, it's hardly worth it, except for large downloads.

This problem will probably take care of itself in 5 years or so, but it sure would be nice if the major information services could, give their users a break now. Why are they charging so much anyway? Is it really that expensive to offer 9600 bps service, or do they figure that since we've shelled out \$300, we're rich??

Thanks

Michael Rogers

Michael:

First, I think the 9600 bps market is moving along rather nicely with a bit over a half-million units making the trip across the scanner this year. The current dog fight in V.32 modem prices led by CompuCom and Image Communications will do more to spur the use of 9600 bps than all that CompuServe and GEnie could do by design. When we reach the point where you can buy a V.32 modem for \$200, everyone will have them. Despite the struggles to reach an affordable 9600 bps standard over the past few years, we DID reach one and it now becomes a function of price. The move from 1200 bps (barely usable) to 2400 bps (usable) happened very quickly once the price was right. The move from 2400 bps to 9600 bps (four times as fast) is equally attractive and once we reach about the same price breakpoint, it will again happen quickly.

There is nothing magic about 9600 bps. V.32bis modems are now available at 14,400 bps which is half again as fast and there is some work on a V.32FAST standard at the 19,200 or perhaps greater level. ISDN will eventually bring us 64kbps or even 128kbps. I look for telcos to be allowed into cable TV soon, which could drive the installation of glass (fiber-optic cable) into our homes and 356kbps channels for our computers. The race for speed is not going to let up, in fact, we'll enjoy ever faster data speeds for the foreseeable future - allowing a world of new online innovations - such things as much more intensive graphics online.

The GEnie's and CompuServe's of this online world simply are not the innovators and leaders they would have you believe. Every step they take is under the weight of enormous internal bureaucracies, and an even more enormous wake of "installed base" that must be taken into account. The 9600 connections have been common on BBS for two years and the commercial services are just now putting them up. This is about what can be

expected. The real economics of their upgrades revolve around the cost of replacing older paid for modems with newer ones. When you talk of 1000 ports, this is a considerable expense.

The GEnie rep who told you the price would come down if more people would use 9600 bps is bending a point a bit. Immediately, they have a few modems in each of 80 cities and if everyone moved to 9600 bps they couldn't handle the cost of conversion comfortably without those ridiculous premiums. So the premium helps pay for the conversion and at the same time slows it down by filtering out all those people who have enough sense to avoid paying it. Then too, they are finding out "what the traffic will bear" in pricing.

CompuServe, GEnie, and Prodigy would have you believe they are the center of the online world. And they do have the largest single groups of callers. But let's examine scale here for a minute. CompuServe claims 815,000 callers worldwide. This includes multiple accounts, dead accounts, and people who haven't been on for six months. They probably have 350,000 people who call frequently enough to be considered regulars. Prodigy claims a million and has about the same in regular use. We estimated there are 30,000 BBS in the United States and some 10 million reasonably active modem users. There is no online service that even claims in their wildest advertising dream state that they have more than 10% of that number. My point here is that if all three major consumer services installed ALL V.32 modems at the SAME pricing rates they now offer for 2400 bps service, I wouldn't expect it to bend the transition curve to V.32 to any dramatic degree. The move to 9600 bps will happen as a result of price of modems - not online services.

The commercial systems will install 9600 bps at precisely the rate they perceive required to be "competitive". CompuServe announced 9600 bps in a few cities a few months ago. GEnie upped the ante to 80 cities in June. By the first of the year, I would expect most online services to be full boat 9600.

Once those modems are installed, the premium should drop. But if you really object to high clock charges and low modem speeds, you're ready to graduate from the online pre-schools to BBS.

Jack Rickard

TELEBITS

NIST PROPOSES SIGNATURE STANDARD FOR ELECTRONIC DOCUMENTS

More companies are going to EDI and other online technologies to order, invoice, and track sales between vendors and others. One of the issues facing the entire online society is accountability of electronic documents. Electronic messages and text files are easily duplicated, altered, or forged.

One of the favored solutions is to include an electronic "signature" produced by the person who transmitted an electronic document that could in some way be tamper proof. The National Institute of Standards and Technology (NIST - formerly the National Bureau of Standards) has proposed a federal standard for a software algorithm to create such digital signatures in electronic messages.

The algorithm was developed by NIST and the National Security Agency (NSA). But there remains an element of mistrust between the electronic community and NSA - most of it having to do with what is perceived as superior technology in the Rivest-Shamir-Adleman algorithm, commonly referred to as RSA, developed by MIT. The RSA algorithm is thought to be superior in security and the mistrust lies with the suspicion that the reason NSA won't back it is because they can't break it themselves.

Both algorithm's involve the use of a public key encryption method. The document sender generates two keys, a public and a private. They use the private key to "sign"

a document and transmit both the document and the public key. Any-one with the public key can verify the author of an electronic message and only the author, by using the private key, can send a message with that verifiable signature.

NIST will seek a patent on their algorithm and offer it to companies at no charge. The RSA algorithm is currently patented by MIT and is licensed for a fee. Recall our story on Phil Zimmermann's Pretty Good Privacy program from our August issue. The program, available in the file PGP10.ZIP on many electronic bulletin boards, is free of charge and uses the RSA algorithm. It could be used for such document authentication purposes. But it is designed "for educational purposes" and the use of such software may require a license from the patent holder.

Export of the NIST algorithm to other countries would be allowed - in sharp contrast to the government's position on most encryption technology. While this seems to indicate the suspicion of a "back door" the government would have access to may have merit, NIST spokesmen insist there is no back door and that the reason they have developed their own algorithm is the royalties required for the RSA algorithm - a strong point.

Unfortunately, the NIST algorithm is based on a method known as ElGamal that is dramatically slower in performance than the RSA algorithm.

IBM CELEBATES 10TH ANNIVERSARY OF PC

The IBM PC celebrated its tenth birthday this past August 12th. William Lowe, lab director at IBM's Boca Raton facility started the original program code named Project Chess. The goal was to produce a personal computer in less than a year. Lowe was promoted shortly after and Don Estridge succeeded him. On August 12, 1981, IBM introduced its new PC in New York. The machine featured a monochrome monitor, one 160KB disk drive, and 64KB of

RAM at an introductory price of \$2665. The company hoped for eventual sales of 250,000 units. To date, they've sold over 17 million PCs and spawned a \$46 billion per year industry. Most estimates place the total installed base of IBM PC compatible units at some 60 million.

CONSORTIUM OF ANTIVIRUS VENDORS FORMED

A group of six anti virus software developers are forming a consortium to develop a code of anti virus software developers ethics. The code is aimed at cutting hysteria and hype in product claims that often mislead consumers. The group will also establish standards for reporting, counting, and classifying computer viruses.

Charter members of the Anti-Virus Product Developers Consortium include McAfee Associates, Central Point Software, Symantec (Peter Norton), Microcom, and Xtree, and Certus International Corp. All have anti-virus utilities on the market and several have product support bulletin board systems.

COMPANY	SUPPORT BBS
McAfee Assoc.	(408)988-4004
Central Point	(503)690-6650
Xtree	(805)546-9150

THE MAJOR BBS GAINS NOVELL LAN ACCESS IN VERSION 5.3

Galacticomm Inc. has announced release of a new Version 5.3 of THE MAJOR BBS - a multiuser BBS software package supporting up to 256 simultaneous users on a single PC.

The new version features IPX Direct LAN channel support allowing operation on a Novell LAN network where individual work stations on the LAN can "dial" into the BBS directly over the LAN without

using a modem. The Major BBS now supports users through normal dial up telephone lines, X.25 packet switched connections, and now direct LAN connections.

The new version also features e-mail distribution lists, enhanced remote sysop menu, support for Windows and Desqview multi-taskers, and dual monitor support.

Four different Extended Editions of the product are available including File Library, MenuMan, Shopping Mall, and Entertainment. The File Library now supports auto logoff after download, compressed file viewing, a top downloads list, and upload royalties. The MenuMan edition now allows callers to jump directly to any menu by entering /go commands at the prompt.

A Standard Edition starter kit is \$59 and supports two simultaneous users on COM1/2/3/4 modems or Novell IPX circuits. Galacticomm Inc., 4101 SW 47 Ave., Suite 101, Fort Lauderdale, FL 33314; (305)583-5990 voice; (305)583-7846 fax; (305)583-7808 BBS.

CANADA'S LARGEST BBS EXPANDING TO 143 LINES

Mr. Neil Fleming, President of Canada Remote Systems, announced a major expansion of Canada's largest bulletin board. The system sports 108 incoming telephone lines and an astounding 13.5 Gigabytes of file storage space. The expansion will increase storage to 19 Gigabytes and up the line count to 143 incoming lines - including eight lines to the Detroit area giving U.S. callers inexpensive access to this Canadian system for the first time. The Detroit lines should be operational by September 1.

Additionally, CRS is adding several new services including a new daily news summary from the Canadian Press, an hourly news service from United Press International, and the Grollier Encyclopedia CD-ROM. The system already carries closing market quotations for all major North American stock exchanges, BYTE Magazines BIX

information service, Boardwatch Magazine, and the Canadian TORONTO COMPUTES newspaper. The system is undoubtedly the largest PCBoard BBS installation in the world.

Canada Remote Systems changed hands after bankruptcy a year ago this past August and is reported to be doing well today with over 8500 paid subscribers. Canada Remote Systems, 1331 Crestlawn Drive, Unit D, Mississauga, Ontario L4W 2P9, (800)465-7562 voice; (416)629-0771 fax; (416)798-4713 BBS.

TINY I-COMM RADIO SCANNER

Personal computer technology is not the only venue of progress in the electronic world. Radio, considered a "mature" technology in many circles has undergone a face lift in the last year or so. We came across a delightful little device recently made by I-Comm, a Japanese radio manufacturer.

The new R-1 model hand scanner has two features going for it we found charming. Size most notably. This scanner is significantly smaller than the ubiquitous package of cigarettes used to measure the physical size of almost everything electronic. It is truly tiny. The other element is range. This scanner is continuously tunable from 100 kHz to 1.3 GHz - for all practical purposes DC-to-sunshine. This band includes transmissions of AM and FM radio, television, police, military, shortwave, HAM bands, commercial aircraft, fire and emergency services, cellular telephone, portable telephone, toaster oven, and maybe bamboo steamer. After playing with this device for five minutes, I was thoroughly persuaded I could tune in a neighbor's electric toothbrush if he would put it on a high speed.

The device is programmable for 100 channels, and you can set ten scanning ranges. It is not likely to show up as a gasoline station promotional premium with its list price of \$549, but for the ever nosy who want to listen in to EVERYTHING done across most of the usable radio spectrum, and easily



do it out of their shirt pocket, this is the gadget man's gadget. I-Comm America, 2380 116th Ave NE, Bellevue, WA 98004; (206)454-7619.

PRODIGY RELEASES PRIVACY UTILITY DISK

Prodigy Services Company, stung by allegations they had been monitoring members private data by uploading portions of deleted files, has moved to fight back. The controversy erupted over the presence of user file fragments in the STAGE.DAT file created by Prodigy's terminal program. The file fragments were the result of a DOS anomaly that leaves data on the disk surface after a file is deleted.

As described in our June issue, the STAGE.DAT issue actually poses no threat to Prodigy member's data privacy. But such an accusation can be damaging anyway - some users don't feel they can "risk it" no matter how unlikely. Rumor has it that the DOD Defense Con-

tract Management Command had mandated that all PCs used by the agency be disconnected from the service.

Prodigy retained the national auditing firm of Coopers & Lybrand to study and monitor Prodigy's computers and telecommunications. Over a period of six weeks, Coopers & Lybrand interviewed Prodigy employees, analyzed data on Prodigy computers, reviewed off-line and off-site data storage facilities, and developed software to monitor the Prodigy network - including random tests of the actual channel between member's PCs and the Prodigy service. Their report concluded there was no indication Prodigy member's data privacy was at risk.

The imbroglio started when some Prodigy members reported portions of private data appearing within the STAGE.DAT and CACHE.DAT files created on the hard drive by the Prodigy terminal software. As we noted in the detailed article in our June issue, this is largely a byproduct of an anom-

aly in DOS-based personal computers in that deleted data is still present on the disk surface.

The company has announced that all future releases of the Prodigy terminal software will include a feature to completely erase all data from the STAGE.DAT and CACHE.DAT area of the hard drive. In the meantime, the company is providing a free utility diskette to those who request it containing a program to clean up STAGE.DAT and CACHE.DAT - removing the data in question. Prodigy members can order the free diskette online by entering the JUMP word TECH TALK online, or by calling (914)962-0310. Prodigy Services Company, 445 Hamilton Ave., White Plains, NY 10601.

NEW SYSOP UTILITIES HIGHLIGHT WILDCAT! 3.0 BBS CONVENTION

We were pleased to attend a convention of Wildcat! system operators this past July 26-28th at the headquarters of Mustang Software in Bakersfield California. The gathering was attended by an impressive group of 135 system operators from around the nation and the subject was the new 3.0 release of Wildcat! BBS software. It was a good crowd, a good subject, and a startlingly good release.

All BBS software started at the kitchen table level. And a lot of companies still operate that way. But Mustang has grown into a pretty sharp professional operation. The company provides excellent support for their product out of clean, spacious offices, with a competent, professional staff. As we move into a time of more business applications of BBS technology and people who want to use BBS software to DO something rather than the hard core group who like to play with innovative software for the sheer joy of it, that type of support is important. But while Wildcat! has an installed base of 8,000 strong and is still a popular package, it has suffered a bit by comparison in the past year with more powerful new releases available from other BBS software vendors - PCBoard in particular. The 26 message areas, 26 file

areas, and aging interface of Wildcat! were just a tad weak in a competitive market.

Well, from what we saw in Bakersfield, that's all over. The new 3.0 release of Wildcat! now shipping is a killer. The reason for this article is that you might not get the word just why very soon. I'll explain that in a bit.

First, let's dispense with the light work. For callers and by way of features, Wildcat! is now an excellent package. The 26 message areas are now 1,000. The 26 file areas are now a 1,000. Callers can select files from various file areas and form up an editable "batch" for download. Cruise all the file areas, pick out the titles you wanted, edit the resulting batch download list if you must, and then pull the trigger and watch all those DOS shell programs fall into your lap. File descriptions now have an additional 15 lines by 80 characters of commentary available through an INFO command patterned after the EXTRA feature on Bob Mahoney's EXEC-PC system. You can search for files in about a dozen seriously different ways. Files can be referred to by the numbers after the fashion of GENie. This is a tiny thing but it is just a ton easier to enter 13 at the command line rather than MYXYZPTL.ZIP to specify a file for download.

The message base has undergone a pretty dramatic upgrade as well. It's impressively quick for one thing. It has a full screen editor. You can write someone a message and attach a file much as you would if you were sending a letter with attachments. When the recipient receives the message, they can immediately download the attached file. We liked this feature in TBBS and we like it in Wildcat. Like files, you can read messages by the numbers as well. You can scan messages for any particular text string in the body text of the messages and it happens pretty much right away. I'm unaware of another BBS package allowing full message text search.

One thing that doesn't even seem useful when you first consider it is an ALIAS message conference. But this goes to the heart of a contro-

versy that hasn't really ever been resolved on bulletin boards - to allow alias/fictitious names or not. Some boards do. Some don't. I like to use the name my mommy gave me, but on a lot of systems, some of the discussion might be more open under assumed names. The new Wildcat! lets you have it both ways. On most of the system, you can operate under your "real" name. But operators can set up a specific ALIAS conference where everyone can go to let their hair down anonymously. I can see this having application even in corporate applications. A kind of suggestion/complaint/gripe area where no one really knows who SNAKE is.

There are some other appealing features evident in the new Wildcat! 3.0. It's much better connected to the rest of the online world. The new version is compatible with FidoNet and Relaynet. According to Jim Harrer, they have working models for release soon to connect Wildcat! to CompuServe, MCI Mail, BIX, and Novell's MHS. The Mustang Software staff actually read and respond to CompuServe forums, MCI Mail, BIX, etc. on the company Wildcat! system and the replies they enter are then automatically dumped back into the commercial services by a utility later on. We put on a heavy lobby campaign for Mustang to look at Internet mail and Usenet News connectivity and they seem pretty taken with the idea.

A third party vendor has created a mail door titled TOMCAT that packs up mail for callers and makes it available for download. The door creates packets in the .QWK format, which is quickly becoming a mail packet standard. As a result, callers can use off-line mail readers such as EZ-READER, QUICKMAIL DELUXE, XRS, or SILLY LITTLE MAIL READER to read and respond to mail off-line.

One of the main reasons to run a multi-node package requiring separate machines for each line is to allow you to run external programs - usually referred to as "doors". Wildcat previously ran doors designed for Wildcat!. Now it supports the standard DOORS.SYS

type of doors - opening a whole new world of third party programs you can run with the system.

So for callers, Wildcat! has shaped up considerably from being one of the older and weaker sisters, to probably one of the best BBS packages around.

You may find it surprising that all this is NOT what we're excited about. The BIG news with Wildcat! 3.0, the caller will never see at all.

When the last big round of BBS software upgrades and enhancements happened a couple of years ago, 80 MB was a BIG hard drive. And 35 or 50 message areas were a LOT of message areas. A system with 3000 files had a LOT of files. A user log with 3000 entries was a big, popular board with LOTS of callers.

Well, things changed cowboys. If you want to compete as a file library BBS, a 700 MB hard drive is a starter kit now. A total of 10,000 files is almost embarrassingly modest. Message areas? Ahundred to start and the real contenders online are carrying as many as 500 message conferences - we'll see systems with 1000 this year. And the reason the big numbers are impressive is that it takes a REAL sysop with hands of brass and a butt of iron to sit there and upgrade 500 new callers a week using the usual user log editors. It takes a REAL sysop to load 200 new files a week into a system, scan the files for viruses, examine the docs to get an idea, toss the file into the proper directory, then load a directory file with some garbage editor and enter the appropriate file description. Never mind the 10-15,000 he has to do to get started. You've got to be seriously imbalanced to actually read through all the message areas. Sysoping isn't for wimps any more. It's a macho sport when you do it in quantity. At some future numerical point of growth, only the mulishly stubborn or the desperately brain dead will want to keep doing this.

Mustang has introduced a set of sysop utilities called WILDCAT! PRO! Series Version 3 Utilities that go beyond anything available in BBS software. And you'll never



Rick Heming - Mustang Software

know its there just by dialing a Wildcat! BBS and browsing around as a caller.

Picture a series of structurally similar related databases: one for file directories, another for messages, a third for user information, and a final one for "questionnaires" and surveys. Put a mouse-driven, windowed interface over the top and let it take full advantage of the natural connections between messages, callers, files, and questionnaires in relational fashion. The result is a program that converts sysop maintenance of a bulletin board from the previous "bridge of the ocean-going garbage scow" situation of most BBS packages to the cockpit of an F-15 fighter aircraft.

The program is so navigational, it's difficult to provide a linear description. But in action, you can see

where this is going. A caller uploads a file, leaves a message to the sysop asking for archangel status, and logs off. The sysop can browse through the entire database of files, which are actually contained in up to 4,000 different sub-directories. He clicks on this "new" file and gets a whole screen of information including file size, title, search words, extra description, uploader's name, etc. He can "click" on the file and view its internals - even down to a hex examination of code if he likes. A really nice ZIP view type utility built in. Then "click" on the user and call up the user log data on him and upgrade his access. The user log can contain an amazing array of information including address, telephone, and demographics. Another click and he has a message - addressed to the user, where he can enter message text. He can also include a standard "thanks for the upload" text



Wildcat! Support BBS Wall of Fame

file he prepared in advance in the message with a couple of key-strokes. If later he edits this text file, it also changes in ALL the messages it's referenced in.

This point and click interface allows you to move pieces of data around like pieces on a chess board. All of these relational databases can be searched using endlessly complex matching criteria. The contents of all the databases can be exported to ASCII, comma delimited ASCII, or dBASE compatible .DBF files for other uses. A function is specifically provided to print out mailing labels from databases with select criteria. For example, print mailing labels for all new callers who signed on for the first time within the last 48 hours.

Most impressively, a procedural LANGUAGE is provided to allow you to code ANY process that can be performed from this cockpit into a procedure. The procedure can then be run automatically by the BBS as an event at any preset scheduled time. You can either code these like a program or simply RECORD a series of steps into a

procedure. After a few weeks of careful recording in this cockpit - you've essentially built yourself an autopilot. This is basically a script language for BBS maintenance.

A built in virus scan procedure can be performed immediately after each upload. System operators can dial in remotely and run this utility package. Aside from all these cockpit controls and autopilots, the package even comes with instrumentation. An impressive statistics package compiles information about BBS activity you didn't even know you wanted to know. But once you see it, you won't ever want to be without it again. What bulletins get read, what message areas, questionnaire stats, door statistics, top file downloads, top downloaders, top uploaders, node efficiency, protocol usage, baud rate, calls by day, calls by hour - all with gorgeous bar graphs.

All BBS offer editors and utilities for the operator. But Mustang's \$99 Wildcat! Pro! Series Version 3.0 utilities are something NEW in BBS. It's a new kind of application for system operators and it changes, in not even a subtle way,

the interface between operator and BBS. It addresses the sheer quantity of file management, message management, and caller management tasks operators are facing today, and gives them a tool to do it with. Even for low volume applications, it simplifies the maintenance of the BBS by an order of magnitude.

The young gentleman who actually did the coding on this marvel is Greg Hewgill. Mr. Hewgill has done other utilities as part of a third party vendor group including SLMR and TOMCAT and we think you may be hearing more about this gentleman in the future.

The company operates a 12-line demonstration/support system at (805)395-0650. Wildcat! Version 3.0 is available in a single line version at \$129, 10-line LAN version at \$249, and a 250-line Wildcat! Professional version at \$499. Wildcat! Pro! Series Version 3 utilities are sold separately at \$99. Do NOT consider these utilities optional. Mustang Software Inc., PO Box 2364, Bakersfield, CA 93303; (805)393-0223 voice; (805)395-0713 fax.

MHS/FIDONET MAIL GATEWAY IN THE WORKS

Novell Inc. markets an e-mail system titled **Message Handling Service (MHS)** to handle e-mail chores on their popular Novell Network Local Area Network package. MHS is the underlying e-mail function for Novell networks and a host of slick e-mail packages are now available for Novell LANS - virtually ALL of which use the MHS format. Along with the popularity of Novell, an enormous e-mail island of MHS users has grown up. Novell currently estimates 3 million MHS e-mail boxes active in the United States.

The company is making a fairly serious effort at enhancing and connecting these e-mail islands. They market a package titled **Personal MHS** at \$100 that allows a remote system or laptop to dial into a Novell Network and check their e-mail - somewhat after the fashion of a BBS and a FidoNet style network.

Typically in a Novell LAN or series of LANs, e-mail is "routed" from one department hub to another. But Novell has gone a step further by setting up a totally free MHS mail hub anyone can use for MHS mail titled NHUB. The service operates at (408)428-9600 and basically, you can dial in with Personal MHS, or via your local MHS mail hub, and send mail. It doesn't actually deliver, but if the recipients system is known to swap mail there, they will get it. To get a free account on the system, dial the Developer Hotline at (408)473-8989 voice and complete the voice mail registration for NHUB procedure.

There is some interest in connecting BBS e-mail to MHS. Michael Fall, of Integration Services Group is doing something about it. He's currently working on a FidoNet to MHS gateway package that would allow a FidoNet system to connect with an MHS system to pass e-mail. No pricing yet and the software is not quite completed but we watch this one with interest. Michael Fall, The Integration Services Group, 21 Summer Street #4, Topsham, ME 04086; (207)729-5722 voice; Icon-Net BBS 1:326/200 - (207)725-8533.

INTERVIEW WITH SYSOP PETE PERKINS IN AKIHABARA JAPAN

by Jeffrey Shapard
jefu@twics.co.jp Tokyo

Tokyo can be described not as a single city, but as about a half dozen major cities, hundreds of towns, and thousands of villages, all jampacked together in the most humid areas of the Kanto Plain around northern Tokyo Bay, a sprawling megalopolis where 30 million people live, work and play. Many of the major sub-centers are districts oriented towards certain ends, such as high-rolling finance in Marunouchi, big government in Kasumigaseki, serious swinging night life in Roppongi, books in Kanda, high fashion in the Ginza, sporting goods in Ochanomizu, plastic sushi displays in Kappabashi, and feeling young in Shibuya. And then there is Akihabara.

The kanji characters for Akihabara mean "autumn leaf field", but the open quiet image of the name is not what Akihabara means to Tokyo people. You come

down flight after flight of concrete stairs in the monstrosity of a building that is Akihabara Station, where millions of salarymen and OLs (office ladies) pour in from Chiba on the Sobu Line to jump on the Yamanote Line loop around central Tokyo, and then you walk out to face walls of flashing neon and blaring speakers, all competing for your attention and your yen: "Buy me, buy me!" Akihabara is Electric Town. If you can plug it in or put batteries in it, from washing machines to walkman, you can buy it in Akihabara, or buy the parts to build it. Akihabara Electric Town is consumer electronics heaven, and this includes personal computers and modems and peripherals of all sorts and colors and sizes and shapes.

On the third floor of a nondescript glass and chrome building across the street from Akihabara Station, in the heart of it all, is the head shop of MRT Inc., owned and operated by Pete Perkins and his partner. Like not just a few long-time American gaijin residents, Pete came to Japan with the military, fell in love with the place, and stayed on. While in the US Air Force, he was a broadcaster and station manager of the Far East Network (FEN) radio station in Tokyo. After he retired, he looked around for something interesting to do next, and became a personal computing and BBS pioneer, and sysop of JANIS II, the oldest operating BBS on these islands.

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Vendor	Support BBS	Sysop Price	List
ATI V.32	(416)756-4591	\$350	\$699
CompuCom V.32bis	(408)738-4990	\$329	\$539
CompuCom V.32	(408)738-4990	\$229	\$339
GVC SM-96 V.32	(201)579-2380	\$379	\$695
Hayes Ultra 144 V.32bis	(800)874-2937	\$599	\$1199
Hayes Ultra 96 V.32	(800)874-2937	\$499	\$999
Intel 9600EX V.32	(503)645-6275	\$399	\$799
Multi-Tech MT932EAB V.32	(612)785-9875	\$449.50	\$899
Practical Peripherals PM9600SA	(818)706-2467	\$339	\$699
U.S. Robotics DS V.32bis	(708)982-5092	\$499	\$1295
Ven-Tel V.32	(408)922-0988	\$499	\$899

* All modems quoted in external models where available
V.32bis modems establish full duplex 14,400 bps connection
V.32 modems establish full duplex 9,600 bps connection

On a hot and muggy Friday evening in July, I ventured into Akihabara to visit Pete. He was tired after a long week, and a longer night before when a beer at his favorite haunt led to another club, then a disco, then the sunrise, when he went back to his shop and began another business day. It must have been the magic of the solar eclipse, but business is business on a Friday in Akihabara. We wandered back to his starting point of the night before, a Japanese pub close under the tracks, where the frequent rumble of evening trains above and the roar of the crowd in the pub relaxing over beer and sake at other tables accompanied our talk about BBSing in Japan. Silence is rare in Akihabara.

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Boardwatch
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TALKING ABOUT JANIS II...

I turned on the tape recorder, a slick little Aiwa with more buttons and features than I could figure out, a real Akihabara classic, and started out with the subject that all sysops love to talk about above all others, their systems.

Jeff: In your most honest and most biased opinion, why is JANIS II a great BBS?

Pete: It has to be because of the type of people that have come online. I have to say, it has to be the users that makes any system what it is and makes other people want to join in. The only thing I have really to do with that is use a large capacity hard disk drive, a little bit faster computer, and made the system available. But it has to be the users that really make anything happen.

Jeff: What kind of people? Who are they? Are they mostly professionals, are they mostly gaijin?

Pete: No, we have a pretty good mixture of foreigners and Japanese, but the problem with Japanese is that they are so shy. They think that somebody is going to criticize a sentence that isn't perfect, so they are a little bit hesitant to enter a message. But they do contribute a lot of programs. You got on one side a lot of the foreigners who don't worry about it, who put in a lot of messages left and right, and answer any questions that other people might have. But the Japanese probably contribute on a scale, I would say, of two to one more software than the foreigners do.

Jeff: Is your system completely in English?

Pete: No, I am running 14 different languages. (Laughs) But, of course, the software allows you to do that.

Jeff: What are the languages?

Pete: Oh, let me see, basic stuff, From English, Portuguese, French, German, Norwegian, and

of course, Japanese. The German and Japanese were done by people here in Tokyo. The rest of them I picked up from what other guys in different areas have done. There are two of them that are really fantastic, that everybody who runs PCBoard should run. One of them is called Jive and the other is called Three Stooges. They make it a little bit more interesting.

Jeff: Are messages going up in different languages, too, or mostly English?

Pete: No, they can go up in different languages, including Japanese. The problem with that is that although Japanese can go up in messages on any system, if those that have English computers see it, it just looks like garbage. But anybody who comes on with a terminal program that can handle it, like on an NEC PC-9801 or something, then it comes out perfect. So I try to encourage it. If they are not going to put in messages in English, then at least communicate in Japanese.

Jeff: Do you have the board segmented so that you have a Japanese section?

Pete: No, not a Japanese section on its own. We had thought about doing that when the guys in the States wrote the program MOKE [which allows you to create and read Japanese language files with a generic MS-DOS system]. We were going to set up a MOKE conference so they could start sending messages back and forth to see how the program worked, to answer questions back and forth, but we decided not to do it. We didn't want to segment anybody and move them off and let them stay just in that one area. So we said, OK, we have the Japan conference, and we encouraged everybody to put any of those kind of things in that conference. But it is very hard to get Japanese to enter messages in.

Jeff: Do you have people calling in from far away places?

Pete: All over. We've got people that have signed in online from probably just every country there is... from London... France... just yesterday from Detroit... people from all over the States... Singapore is pretty heavy... people from Hong Kong. It doesn't really shock me when somebody comes in, because I am constantly calling out myself. (Laughs)

Jeff: Have you had anybody call in from some place that just really made you sit back and shake your head?

Pete: Not really... I had this guy call in from France once, and he wanted to chat. I kept having to give him more time online because we sat there and talked on the keyboard for well over an hour, and we didn't talk about anything! It was just, hey, it is nice to talk to you in Japan. We've got a couple calls from guys that say they lived in a cabin up in the mountains or someplace and the only communications they do is through a modem, and so I have chatted with them. That is probably a lot more fun than anything else, to see somebody coming from someplace like that and then they want to chat. (Laughs)

Jeff: What would you say is the most unique feature about JANIS II, that sets it apart from other PCBoard BBSs.

Pete: Probably not so much the size of it, but the number of things on it. I have tried in the past to have things like Wendy Woods' Newsbytes, USA Today, Infomat Magazine, informational sorts of things, and everybody liked it, but the costs here in Japan of trying to do things like that just blew my mind after I tried it a couple of months. Of course, first they want you to pay for the costs of using it, which really isn't that bad, but trying to download it every day or even twice a week from Japan, without anybody helping you out, becomes cost prohibitive real fast. The phone bills, even using a high speed US Robotics modem, are just too much. But those are the things people here really want and need.

BUSINESS IN AKIHABARA...

The first years Pete Perkins was in the personal computing business in Akihabara, he worked with a Japanese entrepreneur named Honda. They were born on the same day, had lived almost parallel lives, and were both moving into the same business at the same time. Pete said one of the reasons he stayed in Japan was that the coincidences were so many and Honda-san was so interesting, that he just wanted to stick around and learn from him. Together, they introduced Apple compatible machines into the Japan market, moved into the MS-DOS field early, and got many people started in personal computing, before parting company to follow their own paths.

Jeff: How long have you had your present company MRT Inc.?

Pete: Four years.

Jeff: What does MRT stand for?

Pete: Nothing. We couldn't think of what to call it, so we just gave it the letters. A company can really be called anything. It is what you make of it.

Jeff: How would you describe your company? What are your main areas of business?

Pete: We supply personal computer systems, with peripherals and software, mostly to large foreign companies. We sell domestic products, but we import a lot of stuff as well, and we do a lot of exports all over the place. We have offices in the States, a small office in Hong Kong, a place in Canada, and another in Germany, depending on what you want to do. We don't only do computer stuff when we are talking about imports and exports.

Jeff: Non-computer related? What other kinds things do you do?

Pete: Well, for example, somebody asked us for a bunch of air conditioners the other day. (Laughs) But we can get it. We are located right here in Akihabara, and there is no place like it in the world. Every electronic gadget that has ever been conceived and is probably still here or is being tested here. This is really an exciting place because you come to work in the morning, you look around, and somebody is promoting something new. Every day of the year! You can't keep up with it! But it is constantly changing and it is a fascinating place to be. Because people know that we are here, they ask us for a lot of things they just maybe think we can get. My partner and I have been here for nine years apiece, so we have pretty good relations with most everyone. Everybody knows us, and we can get just about anything anybody wants.

Jeff: Are there many other foreign owned and operated companies here in Akihabara?

Pete: Only us. I don't know if they won't let anybody else because they know us or what. (Laugh) Or nobody else has had the nerve to try it.

BBSING IN JAPAN, IN THE EARLY DAYS...

Pete Perkins and his company at that time put up their first BBS in 1983, and missed being the first system in Japan by just one day,

with that noble honor going to Steve Bellamy and his Kanto Central. But Pete Perkins' JANIS has continued to run since then, with just a few breaks in service, and continual upgrades, making it both the oldest BBS in Japan, and one of the most current. Kanto Central is no longer around, but Steve Bellamy is, and he and Pete remain friends, and sometimes friendly competitors.

JANIS started originally as a support center for subscribers of The Source, which Pete Perkins was a distributor for. In fact, he was the number one salesman in the whole world for The Source, and when he asked the Japanese government to invite Jay Keller, then president of The Source, to come to Japan to share ideas and information, they did it. And had a certain large Japanese company, whose name should probably not be mentioned here without their permission, been able to follow through in their interest in what many considered the best large-scale information utility in the world, The Source might still be alive today and the online world would be a different place.

Jeff: The other day when I was talking to you on the phone I called you the father of BBSing in Japan, and you said, no, Steve Bellamy beat you by getting his BBS up one day before the first JANIS. What was it like back in those early days?

Pete: You mean the days of trying explain to people what an acoustic coupler was for? Well, I remember flying over to San Jose, renting a car, and driving up to this company to buy this fantastic device, so spectacular I couldn't believe it. I carried it back to Japan, had our engineer work on it for a week to get it running, and then started it up. Nobody else had a 10 megabyte hard drive! I mean, 10 megabytes! Can you imagine all that data? (Laughs) Now we have 650 megabytes on our main machine, and I always have to worry about deleting things I wish I could keep. Nowadays even 1.2 gigabytes is not enough.

Jeff: When did that first JANIS go up?

Pete: From what I remember, it was in early 1983. As I said, Steve Bellamy put up his Kanto Central BBS one day before we put ours up. The next day we turned ours on. I was kind of mad at our engineers when I found out that Steve had beaten me by one day, so he has to be the godfather of BBSs here. There weren't any in Japan then.

Jeff: None?

Pete: There weren't any.

Jeff: Do you think that the early JANIS had a big influence on the now booming Japanese BBS scene?

Pete: Oh, I am sure it did, as well as did Kanto Central, because shortly after that people would say, hey, this is kind of easy, and people would come to us and say how do you do this, and we would say, OK, we will help you set up your system. Steve did the same thing. He helped quite a few people set up their systems. I think it was after ASCII [a major computer publishing and software house, and the people who brought MS-DOS to Japan] invited a group of us, I think it was five people spread out between Tokyo and Yokohama and Saitama, there were like five of us, and we had a one week meeting there at ASCII. They picked our brains as to why we were dumb enough to do something like this, and spend that much time and effort on it, checking how we did it and everything. They were going to write a special issue of their magazine dedicated to BBSs.

Jeff: Was [the first large Japanese system] ASCII net up and running then?

Pete: No, no, ASCII took all the information that they had gathered by picking our brains, and took the best ideas of what we all had, and figured out ways around all the problems we had had, because we had said what the problems were and how we had corrected them, and then made ASCII net. However, what all of us did get was this special issue of the magazine, just like they promised, promoting our BBSs! And then from there, I think people started

understanding, hey, a BBS, yeah, that must be neat to communicate through, and then they started growing throughout Japan. I think that was the start of it.

Jeff: What was the first made-in-Japan BBS? Was ASCII net the first home grown system here?

Pete: No, there was a system in Yokohama. I can't remember the guy's name, and I think Steve Bellamy helped him set it up on an Epson. It was a real small system, but at least it was Japanese. He went through all kinds of things, like the weather report, small things like that, but at least it was a start. He was the first one to actually have a Japanese-based system. He was in the meeting as well, and then ASCII net came along afterwards.

Jeff: Is he still around?

Pete: I don't know. I haven't called his system in quite awhile. What amazes me, though, is how back in those days we had people coming in asking all kinds of questions, how do I use this acoustic coupler, what is this thing, and they now are the leaders in the field, the people in the know, here in Japan.

Jeff: They were your students, sort of?

Pete: Sort of, yeah. Right.

Jeff: Was JANIS running on your own software at that time?

Pete: No, I bought it out of the States. One of the reasons I think that Steve Bellamy beat us is that we made a special computer to run the GBBS software. We actually made a special computer to run the board. It was one of our first portables, a real small Apple-compatible computer that would fit into a video tape case. We had to shrink everything. We were worried about heat, and didn't want to use the regular board. The engineers almost reworked the whole GBBS program so that it would support the hard disk and everything. It was a neat system.

Jeff: So why did you continue to run JANIS? What do you get out of it?

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Pete: The adrenalin of it. When the old adrenalin starts flowing as you sit on this side of the screen, thinking about how you are going to do this and add that, and then as you are sitting there after you have done that and somebody accesses it and you can just about imagine what they are seeing and they are saying, wow, this is great. You get a good feeling. That is all there is to it. It is just a great... feeling just to operate one of these things. I don't know, maybe I got the bug a long time ago and just can't get rid of it, but I don't think I could go through the day without actually looking at the screen and saying, OK, baby, you are still working. (Laughs)

BBSING IN JAPAN - DIFFERENCES AND DIRECTIONS...

Pete Perkins, like most other sysops, approaches his JANIS II as a labor of love. While he is able to write off most of the costs as advertising for his company, and does little other advertising, the amount of time and energy he puts into it is a volunteer effort because he loves to do it. And unlike many other sysops along the way, he has not lost his initial enthusiasm for the personal approach to the medium or gotten involved in trying to expand as a commercial service. While he wants his BBS to be useful to its users, he also wants them to have fun. JANIS II is there for your enjoyment.

Jeff: Where do you see your system going from here?

Pete: If I can find the funds (Laughs), and that's always a problem because it is something that doesn't generate any money, then in the next two years it will have two 1.2 Gigabyte drives, and probably three or four lines. Japan is not like the States where you can put up 99 lines and make money from it. So maybe three or four lines, a 486 super high speed machine with just about every door or application program that people have got out there on the market, and lots of information. Information is what everyone wants, even if it is a week late. I try to find information that people want,

even if somebody will send it to us on disk or something, so I don't have to spend so much money to download. I expect the system to grow really big. It will have tons of stuff on it, tons of stuff.

Jeff: You started out on Apples, then moved into the MS-DOS environment, and networked that. Do you see yourself going into some sort of unix platform?

Pete: No, I don't think I am going to go into unix, because then you are talking big bucks. And since you have to put out that much money, you have to make money from it. You get more or less on the professional level where you offer professional services, and people should pay for that. The personal computing level that I think BBSes are on, I think I want to stay within those parameters, and not get commercialized or anything. If we get enough money where people are giving us donations every now and then to help operate the board, that's fine enough for me. But if I started charging people for something, then I think we would have to give them a heck of a lot more than we've got now.

Jeff: You've seen a lot of changes in the field since you got started. How do you see these changes? Do you sit back and think about the good old days, or do you feel that things have come a long way are pretty good now?

Pete: I can remember talking to this one individual, who now writes articles on telecommunications, including a couple of magazines in the States, and is an adviser even to some government agencies. I remember showing him how to access The Source, and watching the screen and saying, look at this, look how fast this goes across the screen, this is 300 baud! And he was so excited. (Laughs) Like I said, the guy now writes for all kinds of magazines and is one now of the leading authorities in Japan, but he could not understand even just how the characters were coming across the screen. He would come over almost every day and ask questions about this and that. But, it was fun. We have definitely come a long ways. But, still, it is the same, as far as the users.

We are just doing things faster. I expected that by now there would be a lot more useful information and things made available.

Jeff: So there is more quantity than quality out there?

Pete: I have got a lot of people coming now, and what I am looking for is knowledge, and not just information. But it is hard to find.

Jeff: Are you basically happy with the direction BBSing is going?

Pete: Oh, yeah. Especially, here in Japan, because even a lot of the high school kids now are setting up their own BBSes. Some kids are setting up their own individual boards, even if they've only got 5 or 6 guys signing on. They are getting excited. They see what we've got online and they are constantly asking, can I get that game so I can put it on this BBS I am thinking about making? And I say, look, I paid a lot of money to download this and I paid a lot of money to register it, so if you really want it, then what are you going to give us back in return? And they say maybe I can write this little utility. And these guys are starting to write programs. (Laughs) That's fun. That's fun, to get them excited.

Jeff: So you've got this whole new generation of sysops growing up. And they're young, aren't they? It took us so long to learn all these things, and these kids come along in a week and learn what it took us two years to do.

Pete: Yep. I was chatting with this one 15-year-old kid and I was trying to convince him why this software I was using is the best in the world, and he kept saying, no, the software that I am familiar with is the best, because it can do this and that. And finally, after we had been chatting for about 30 minutes, he said, well, listen, call this number. And he had already set up his board and was playing around with it. He said can your board do this? And I said yeah. And can your board do that? Yeah. And we got to this chat feature and he said, well, this is something your board cannot do. It was a windowed chat function where you both could type at the same time, and the top

screen was him and the bottom screen was me. I said, gee, that is neat! And it just had happened that I was on one of the BBSes in the States just that afternoon and had downloaded the utility which would give my system the capability to do it, so I said call my system tomorrow. I was not going to lose to this 15-year-old kid, man. (Laughs)

Jeff: You follow the US BBS scene, because you are logging in there and checking stuff out. Do you follow what is happening in the Japanese BBS scene? Do you hang out online a lot around here?

Pete: Not that much. The problem really is time. A lot of times I just stay in the office late at night to do things, and sometimes even overnight, just to take care of our BBS. I cannot do it during the day because we are so dog gone busy. I have to spend the time that I am involved with the BBS on things that can enhance it, so I don't get on a lot of the other boards here locally. Of course, I keep my ear to the wall and I know what everybody is trying to do. But I can't spend a lot of time doing it.

Jeff: That is a common problem for sysops, that you end up with so much work running your own system that after awhile you don't really go out and hang out on other systems because you are so busy keeping your own running. There is always the danger that you get yourself trapped in a narrow view of the whole thing.

Pete: My being on a lot of the boards in the States helps. I see what the guys there are doing, and there are a lot of the same things I want to do. I do want to get more involved in Japan, but I just can't, because if do, then I lose track of what is going on over there.

Jeff: From what you have seen of the Japanese BBSes, either the home grown systems or the modified versions, how do you see what is happening in Japan as different from the BBS scene in the US, and how do you see it as similar?

Pete: There are so many boards in the States. Sometimes even in a small city you get 4 or 5 different

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boards in that one small place. Here in Japan it is not like that... yet. But I do see where someone is going to sit down and write a commercial program, that is gonna be really good, to work on Japanese systems that will put [the large commercial services] ASCII Net and NEC PC-VAN to shame. And that will be the start of something fantastic, just exactly like it was in the States when GBBS came out, and then the systems for the IBM, like IBBS and TBBS and WWIV and PCBoard. I see the same thing eventually happening. I don't know if it is in the near future - I hope it is - but I see somebody sitting down and saying, hey, here's my chance to really make it big and write this BBS software. And then from there on everything is just gonna take off. And whoever does it is going to make a lot of money.

Jeff: A hot new system, and not necessarily a Japanized version of an American BBS package, but something new and hot?

Pete: Yes.

Jeff: Do you think it will be in the DOS environment, like on the NEC PC-9801 [the most widespread PC in Japan, with some 60% of the PC market], or do you think it will end up being on one of the unix workstations that are just popping up all over?

Pete: No, I think it will be on the NEC. There are enough high-level programs where they could do that already, but it is expensive, it can't be done on a large-scale by a lot of people with not much knowledge, who just want to do it for fun. It'll be on the NEC.

Jeff: What do you think is the biggest challenge, or barrier, the Japanese sysops are facing in setting things up?

Pete: Trying to get enough people to call in that have computers and know what a modem is. I mean, they talk about the CAPTAIN system [a big-time videotex project that has more or less flopped] and everybody having their own terminals and stuff, but still, in Japan, people just don't really know. Even though they have a computer, they still don't know that all they need is to get a modem and some available software and they can connect to anywhere. It is not as well-known as it is in the States. I don't know why that is, after so many years of publicity from different magazines.

Jeff: So you think that even with all the pasocom tsuushin [personal computer communications] magazines, there are still just a whole lot more people talking about it than actually doing it?

Pete: Than actually doing it, yep.

Jeff: Right now in Japan, right in the Tokyo area, there are 10 or 12 large commercial systems, like PC-VAN with the claim of nearly 300,000 members and NiftyServe coming on strong with the claim of almost 200,000, big-time systems, right here in the Tokyo area, and with their own nation-wide data networks for broader access. But, in all of Japan there are only about a 1000s BBS, which is still a pretty big jump from 1983, when there were only two. Do you see the Japanese BBS scene supporting more BBSes?

Pete: PC-VAN and ASCIInet and all of those are more or less clones of CompuServe and The Source, even though they want to call themselves something else. They do have a lot of people that have subscribed, and probably have quite a few people that are really using their systems. What they don't have are a lot of small BBSes that have the small gathering of a group of people with a common interest. Of course, they have the conferences on NiftyServe and PC-VAN, but I have the feeling that the time is going to come when the small BBS will become very very popular in Japan. At least I hope it is. I see it moving in that direction. The sheer size of the other systems just doesn't allow for individuality.

It is more or less the same thing as they do elsewhere, just hold up the flag, follow everybody else, and you get the same reactions from everybody. But, on a small BBS they are not going to be as restricted, they are going to be a lot more open-minded, and then they are going to start enjoying it.

MODEMS - IN GENERAL AND IN JAPAN...

Modems, those little devices we do it all through, those troublemaking creatures that can work so well and cause such misery. In 1983 questions about modems and what you can do with them became such a hot topic that in early 1984 a telecommunications user group called TokyoNet emerged, and modems were the most common topic of discussion. Regulations were strict, and most PC netriders approached them like guerrillas, finding allies even among the engineers and sales staff of the large telecom monopolies that controlled the bandwidth. It was new, it was exciting, and we were all in it together. Somehow, even in these days of inexpensive, sophisticated, fast, reliable and even rather standardized modems, mystery and myth and tales find their way into every discussion of the medium somewhere along the line. The Japanese telecommunication market and industry have opened up. Deregulation, privatization of the monopolies, and heavy competition have brought prices down and quality up, both in the lines and in the devices. But we remember...

Pete: I won't even sell internal modems. I don't want to have to go to a customer's site to find out what is wrong with his computer when it is just a modem problem. If he brings me his modem, then no problem. (Laughs)

Jeff: You use US Robotics, right?

Pete: I wouldn't use anything else. Sorry, Hayes, but I am a US Robotics fan. That is a sweet modem.

Jeff: I had some problems with a pair one time. They worked great for calling, but I couldn't get them to answer the phone.

Pete: You know what the problem was? The phone lines in Japan are different from in the States. Some of those first modems were tweaked just off the frequency, and they wouldn't answer the phone. I had about 5 or 6 people call me and say, hey, this modem doesn't work. Bring it over to the office, and it worked perfect. Take it back, and it's not working again. Bring it back, and OK, I'll try some different settings. Take it back and it still won't answer the phone. So, I told them to call the phone company and tell them to put in a different line for them, and they worked fine.

Jeff: Yeah?

Pete: Because they know about them now. Do you know who the dealer for US Robotics is in Japan?

Jeff: NTT [the domestic telecom utility]. They sent me a special offer they were going to do for sysops, they would sell me one for a special discount that was only about 25% higher than the US list price!

Pete: I went to COMDEX once and I was talking to the people at US Robotics, and one of the guys went back to check. Oh yeah, he said, our dealer in Japan is NTT. So when I came back I called, oh, it must have been about 100 different offices at NTT and nobody knew who they were. What are you talking about? US Robotics? What is that? (Laughs)

Jeff: Yeah, they are so big they don't know where they begin or end. [NTT is the largest single telecommunications company in the world, even though they have privatized and started to break divisions off into subsidiaries.] They must have thought you were interested in robot arms or something.

Pete: So I think they kind of said, look, folks, if you want to be our rep, then at least sell something.

Jeff: But that is probably pretty good for them. Because NTT is doing it, it means that they are sort of "blessed", for the corporate market and all that, where they don't really worry as much about the price of each device.

A SHORT TOKYO BBS SAMPLER

This is just a short list of some of the more popular Tokyo BBSs. The country code for Japan is '81', with the '+' referring to whatever your international dialing prefix may be. The area code for the 23 wards of Tokyo is '03' domestically, and '+81-3' from abroad. The other area codes on this list are BBSs in Tokyo-to, but outside the 23 wards.

Telephone	Speed	Soft	Title
+81-3-3255-8856	9600	pcb	JANIS II - MRT Inc.
+81-3-3355-4395	9600	qbbs	AVXIA (6:730/9) - FIDO node
+81-3-3419-1138	9600	qbbs	B&B Shimokitazawa (6:730:11) - bilingual FIDO
+81-471-85-1088	9600	qbbs	MCN (6:730/6) - QBBS Center and FIDOnet
+81-3-3408-0479	2400	ra40	IMS-Net (6:730/6)
+81-425-46-9143	9600	wcat	P&A BBS - node#1
+81-425-46-9144	9600	wcat	P&A BBS - node#2
+81-3-3709-3463	9600	wwiv	SMBBS - St Mary's Intl School
+81-3-3813-1169	9600	wwiv	First Amendment - free speech
+81-3-3997-3444	9600	wwiv	TPC BBS - Tokyo PC Club
+81-422-33-0381	2400	wwiv	ASIJ - American School in Japan

Pete: Hayes has never had an interest in the Japanese market. Never. They have never ever wanted to come over here and get their equipment approved by the MPT [Ministry of Posts and Telecom, the Japanese PIT]. Everybody that is making anything in this country is making them Hayes compatible. Hayes could have had the entire market. Omron, Aiwa, Tamura, they are all Hayes compatible. I told Hayes 100 times, why don't you come over here? Let me do it for you. I will introduce you to somebody or set up a company for you. "We are not at this time interested in the Japanese market."

Jeff: The way I heard it, they didn't want to do it because they didn't want to submit their schematics to the approval office.

Pete: They didn't want to lose their technology, but everybody had it already!

Jeff: Boy, hasn't the modem market changed? I remember when the only really good modem you could buy for a reasonable price was the Epson CP-20 Acoustic Coupler for 40,000 yen!

Pete: And we figured out how to modify that little sucker, man.

Jeff: With the little switch for Bell 103 and CCITT V.21. They are still useful, though, if you are off traveling in some remote corner of the world where the phones, if you can find one and can get connected to anywhere, are hard-wired into the wall and you don't want to get your wire cutters out.

Pete: Yeah, I've still got mine.

Jeff: Me, too.

Pete: We used to charge 2500 yen to put in those little 70 yen switches. It was labor-intensive, all of about 30 seconds to drill the hole. (Laughs) But it worked.

Jeff: They had both Bell and CCITT built in, but wired it one way for domestic sales and another way for exports to the US.

Pete: That was fun.

Jeff: In those days there were pretty strict regulations about what you could connect to the phone lines, but most of us ignored them. Even the KDD [the international telecom utility] guys.

Pete: All of us did, didn't we? KDD was one of our first modem customers!

Jeff: In the telecom regulations then, you weren't supposed to connect anything directly to the phone lines yourself. You had to have it done by a registered engineer, usually some old guy with a pair of wire cutters. And it was awhile before you could them to install RJ-11 jacks, and even then it cost 5000 yen for the modifications. So we would go down the street here and buy one for a couple hundred and do it ourselves, hoping dire consequences would not occur. Then things loosened up a big, and you could hook your own phone up to your RJ-11 jack, the officially installed ones of course, but no data communications equipment. So, some of the Japanese makers built phones... that had modems inside them. Remember the Oki System Phone?

Pete: Yep, NEC and Oki. They had some fancy names for them.

Jeff: You would buy one and they would have these huge manuals full of BASIC source code to toggle the DTR and so on, to get them to do anything. It was easier just to dial the other number, then punch the DATA button when you heard the squeal.

Pete: Hey, do you by chance remember XXX [name withheld to protect the guilty]? He got this in-

ternal modem for a real good deal from the States, plugged in in, and blew the telephone line all the way back to NTT. (Laughs) Remember that?

Jeff: Yeah.

Pete: He didn't know what to do. They are going to find me. So I said take the card out and tell them there is something wrong with your phone. He called the guys over, and he was shaking and sweating. These guys from NTT, they had no idea what a modem even was. (Laughs)

Jeff: That was before tone dial. It was all pulse. That was one of the reasons that you had to get a modem tested and approved, because the strength of the pulse in Japan is rated as a weaker signal than in the US. They just don't want somebody else to blow the telephone network apart.

Pete: Those were good days, though, because it was all new. Personal computing was new, and just about everything that came along with it was just brand new.

PROFILE of JANIS II

JANIS II is a BBS operated by Pete Perkins of MRT Inc. in Akihabara in Tokyo. It runs PCBoard v.14.5 on three CPUs connected through LANtastic. The servers are a Mitsubishi 386 with a 650 MB HD, a VPIC 386 with a 150 MB HD, and a Mitsubishi 286 with a 20 MB HD. One of the three telephone lines is open for public use, and the others are used for networking and system administration. All lines use US Robotics 9600 HST modems. Non-validated users can only read basic messages, but there are 30 download directories with over 200 MB of files for downloading by validated users. In the evenings and late at night you will often find Pete Perkins online with a friendly word.

Call +81-3-3255-8856 and leave a message with the sysop to get validated. Pete Perkins, M.R.T. Inc., Daiichi Abe Bldg., 3F, 1-8-2 Kanda Sakuma-cho, Chiyoda-ku, Tokyo 101 JAPAN; 011 81-3-3255-8880

voice; 011 81-3-3255-8857 fax; 011 81-3-3255-8856 BBS; TELEX: 2422635 TIMSTST J

ABOUT THIS COLUMN...

Jack Rickard has asked me to write a regular column for BOARDWATCH, and while overwhelmed with work (aren't we all?) I am honored by the opportunity. My orientation has been more towards medium-sized systems, with X.25 data network access and inter-system email and conferencing connectivity, but in the process I have worked with all sorts of systems, in Japan and elsewhere in the world, and spent many a night riding the nets with my Mac and modem. Jack, knowing my tendency to go off into space on issues and abstract rampages, tells me to keep a balance with some good juicy concrete details that you can put to use, or at least pass on to someone who can, so as I sail the online seas and try to bring you to electronic islands and realms you may never have seen or heard about, please send us feedback about what you like and don't like, and what you want more information about. I will start with Japan, the closest region for me, as I test my sails, and I hope to see you online here soon.

--jefu

ABOUT THE AUTHOR/INTERVIEWER:

Jeffrey Shapard entered the online world in and from Tokyo in 1984, when he got involved in developing TWICS, another BBS that evolved into a commercial conferencing and electronic mail service, with the peculiar characteristic, for Japan, of being English-based. He is proud to be associated with pioneers like Pete Perkins. Jeffrey Shapard jefu@twics.co.jp TWICS/IEC, 1-21 Yotsuya, Shinjuku-ku, Tokyo 160 JAPAN tel: +81-3-3351-5977 - fax: +81-3-3353-6096

BULLETIN BOARDS AS A BUSINESS - HOW TO MAKE MONEY WITH A BBS

by Jack Rickard

There are hundreds of very good reasons to run a bulletin board. Most of them have little direct profit motive. Many operate a BBS purely as a hobby, to share their knowledge of a particular area or just to socialize without dressing for the occasion. BBS also fit into any number of commercial operations without being a profit center themselves. Product support, staff communications, and online order and sales of products not related to BBSing are all growing in popularity. All are valid and often valuable reasons for running an online system. But they're not the subject of this article.

This article is about commercial or "pay" bulletin board systems. This is a special class of BBS that serves as a most interesting point of departure for the future. Many of the early purists tended to treat BBS operators who run systems as subscription services for profit as somehow unclean. The early days of the BBS world were given to free access and sharing of all things right down to source code. But the world is changing. Where three years ago requests for "support" or subscription fees were met with obscenities from callers, it is now an almost expected routine. And we're seeing hundreds of BBS just now pulling themselves up beyond the "paying for the telephone lines" level to develop cash flows between \$500 and \$5000 per month. A much narrower group is operating in the \$100,000 to \$250,000 per year level. And of course a couple of exceptional systems are approaching a million dollars per year.

Beyond those now determined to run a BBS as a business, there are a large number of BBS operators who essentially entered it as a

hobby and would actually like it to stay that way. But they see other local systems going to six, eight, or a dozen lines; putting up Gigabyte plus file areas, and experimenting with fax delivery, etc. In order to keep their systems respectably comparable, they feel driven to enhance their systems. The costs of doing so are generally too great to be paid for out of pocket and so they begin to offer additional access and perks to "supporters" who pay an annual subscription fee. They use the fees to help defray the cost of lines and hard drives. Whether intended or not, these operators have crossed the line into the world of BBS as a business. And doing that "just a little bit" is quite like getting a "little bit pregnant" or having a few kids "just to see what it's like."

Because this is a fascinating area, driven by some very real human desires and needs, it will likely reshape in some sense our information future. As a result, we spend a lot of time talking to system operators about why they do what they do, and what it is of what they do that seems to work. Naturally, we also are in contact with a lot of BBS callers. And we tend to pump them a bit as well as the opportunity arises on why they call BBS, why they subscribe to BBS, what they actually do on BBS, and where they think its all going. This article is about some of the basic techniques to make a BBS a paying proposition.

In speaking on this topic some three years ago I was regularly greeted with derision full round from almost everyone connected with bulletin boards. Things have grown over the past three years. I must confess an enormous amount of personal satisfaction in announcing that it's very nearly a done deal at this point. And over the next two to three years, I'm persuaded the experienced and competent system operators just getting by today will have to have both hands tied behind their back and a sack over their head to avoid making a VERY handsome living running a BBS in the future.

It is actually no act of prophecy to see this. BBS offer something of value. Because they are typically

run by a single individual or small group, they start with virtually no overhead. No one has to have a series of planning meetings and committee assignments to get one started. No reports need be filed. System operators have been known to have an idea at midnight and a system up by early afternoon the following day. Because of this, the value can be delivered extremely economically. Rather than paying \$12 per hour, most callers would prefer to pay \$50 per year much as they are accustomed to for a magazine, and use it all they want. The cottage level, part-time volunteer nature of the people that run BBS allow those kinds of prices to happen. The advances in BBS software and PC hardware allow the service itself to more closely approximate the \$12 hour commercial service with each passing day. In many areas, BBS are simply MORE valuable, work better, and deliver more value than their commercial counterparts at a much less expensive price. What they lack is scope, and in banding together into networks, they are even gaining that after a fashion. So bulletin boards do deliver a product, and there seems to be a rapidly growing market for it.

Secondly there is a powerful element of desire. An enormous population bulge, widely known as the baby boom, has reached middle age. Had all things remained the same, it would have dawned on most of these baby boomers that not all of them could wind up President of IBM all on the same day. That would have been bad enough. But all things didn't remain the same. And just as all these baby-boomers were about to resign themselves to middle management stall-out forever, corporate America began to eat itself in a kind of inside out hari kari that wiped out millions of those middle management jobs anyway. There is NO such thing as job security now, if there ever was. The usually expected "benefits" of a corporate job are under continuous "revision" and "enhancement" in all cases to the detriment of the employees. Major corporations are whacking off workers in 10,000 man groups. And those left with jobs are asked to make up the loss of those departing. The stress is incredible. The

result is a just horrendous general dissatisfaction with life in corporate America.

This is fueling a fascinating and enormously powerful move toward home based businesses. Both BIS Strategic Decisions and Link Resources, two different market research firms tracking the home business market, concur on their estimates of the number of income producing home offices at 20 million. Of these, 11.1 million are the primary full time occupation and income of the household. And the BBS, in addition to acting as a powerful means of augmenting a home business, is beginning to look like the ultimate home business itself.

For whatever reason, it appears that almost all the BBS operators I speak with are 36 years old. This isn't really an average. It appears that ALL of them are 36. I would guess the 30-45 age group of males comprise the vast majority of BBS operators. But for some reason, we seem to hear from an awful lot of people who are either 36 years old, wish they were 36 years old, or think they are 36 years old. It's a kind of magic number. It's possible that ALL BBS are run by 36-year old corporate burnouts. So basically, we have an army of 36-year old refugees from the corporate world who desperately WANT BBS to be profitable. And it has been my observation that if an idea is powerful enough to take root in enough minds, it comes to pass regardless of the realities of the world.

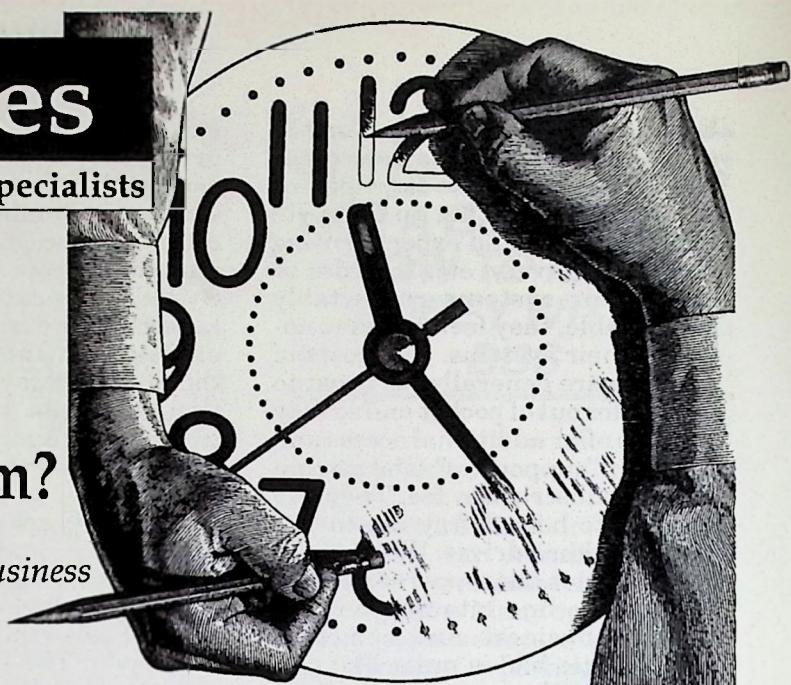
The BBS as a business is a bit remarkable. By contrast, let's take hardware stores. Hardware's a good business. There are lots of hardware stores. The owners look prosperous enough. If you start a hardware store on less than \$250,000 capital, you'll probably wind up raking the yard in a state facility for the mentally disturbed. No one would think of it. A quarter million is actually probably grossly undercapitalized at that, but let's assume you got away with it. After three years of 18 hour days, let's assume there wasn't another hardware store within 100 miles, everyone in the area was just dying for hardware, and you made a go of it. Your suppliers all had just the

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The new User Manager for TDBS systems, the full registration and member tracking system that is a true member data base. It has keyword search, on-line user resumes to help users get to know each other, a notepad to let you keep notes on every user, etc. It will present SysOp defined text messages on pending expiration of membership and make the necessary access changes on expiration. Allows users to join as members or renew their membership using credit cards on-line. This program is priced at \$69.95

Message Manager

The Message Manager for TDBS systems. Some of the highlights of this package are: Support for up to 10,000 message areas; SysOp configurable full screen editor; SysOp configurable reply quoting; the capability of editing messages after they are saved; users can change several read options at any time and save them to disk to make the changes permanent; users can subscribe to up to 60 areas and see all the new messages in each area when they enter the message menu; complex search capability on any combination of FROM, TO, or SUBJECT fields; message text can be searched for strings; FidoNet format message import and export utilities are available. This program is priced at \$179.00.

Sales Manager

The powerful and productive On-Line Sales Manager. This on-line catalog sales program is written by Jeff Johnson, another pioneer in TDBS software, and it easily shows the power and capabilities of TBBS and TDBS. The Sales Manager will display a catalog of items for sale under categories you specify, each item can have a full descriptive text file attached to it and the user can place an order at any time and continue to browse through the catalog. When done the user selects to order and is presented with each item and given the opportunity to indicate how many are to be shipped. Developed as a modular package this software will handle everything from a low level order entry system to a fully featured point-of-sale package and do all the things you would expect of a full sales package. Please come and work with it on-line. Prices start at \$395.00.

On-Line Entertainment

The extremely popular game of StarQuest. This is the first multi-play, multi-user space game to run under TBBS/TDBS. You can create a universe of a size that is best for your system and its users and your users create and capture settlements and become active wheeler/dealers across your universe. Their settlements can be attacked and captured whether the user being attacked is on-line or off, and as the users gain in strength and worth the computer controlled pirates and the tax assessor will be there to lend a helping hand. This on-line multi user game has already proven itself to be popular with the users and it's not only a lot of enjoyment for them, but it can quickly pay for itself on systems charging for access. This program is priced at \$149.95.



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right products at just the right time - at good prices - and they were just lining up to cut you and your one tiny hardware store the same discount deals they cut chains that have a couple thousand hardware stores. If all that somehow came to pass, you could look forward to an income, after the expenses of running the store, in the range of \$40,000 to \$50,000 per year. Few get rich quick from one hardware store. If you can parlay it into a chain of six or eight stores, you can do very well for yourself. It will take you twenty years, you'll have to be smart, and you'll work quite hard getting there, but I still think it can be done in America today.

Let's look at a BBS. I've seen them started on \$700. But let's steer clear of raking the yard at the state facility. You can start a nice little multiline BBS from scratch for \$5,000 using the latest software and hardware available. The price of hardware is actually in free-fall at this point. For \$10,000 you can put up eight lines with a large hard drive. For \$20,000 you're starting a DELUXE multiline system.

It will still take three years. It's taken three years to bring a business to profitability for about 3000 years at least and I wouldn't count on throwing a strike the first time you fire up the system. There are any number of exceptions and certainly lightning could strike with the right theme, the right approach, all that. But three years is what everything in the world seems to take and I don't think BBS are any different. After three years, your hardware store should be moving into the black. And you can expect it to take three years of running a BBS as a business before it begins to show a profit.

As to the work end of it. No different than hardware. Some people honestly believe they can plug a modem into a computer and money will fall out of the RJ-11 jack in the wall. It doesn't work that way. You'll have to eat, breathe, and sleep BBS for three years to get it off the ground. Just like hardware.

And now the payoff. What's the ceiling? Hardware store owners get \$40-\$50K. What can you make

as a BBS operator? Right now we don't know. The reason we don't know is that we don't have anyone who's found the ceiling. Jim Maxey of Event Horizons is doing \$1.4 million gross right now off of one PC with 32 lines. I don't know what he gets to keep. Bob and Tracey Mahoney I've got to believe are grossing a million off of 230 lines right now - although they haven't said.

All of the BBS world to date is based on less than 10 million active modems. But there are a hundred million RJ-11 jacks out there that can reach you and more of them are getting modems every day. And once they do, all they have to do to walk in your hardware store is figure out how to get it to dial the right eight digits. There does not appear to be a known ceiling on the growth of a subscription BBS. What limits there are appear to be technical. Systems seem to not work very well at 50-60, 100, and 200 line points and have to be redesigned. But the upside potential of a BBS appears to be unlimited.

So a BBS as a business requires a tiny fraction of the startup money required to start a hardware store, fast food franchise, restaurant, dry cleaners, etc. It takes about the same time and work to bring to profitability, and it doesn't seem to have a limit on what you can expect to make.

Further, there is no sales tax on BBS in most states at this time. No regulations on how many parking spaces you must provide. No food inspections. No applicable environmental regulations, toxicity reports, environmental impact studies, particular building codes. There's no five day waiting period before you can sell someone a subscription as there is in some areas on firearms. The telephone company will sell you as many lines as you want. PC manufacturers will sell you as many PCs as you want. And the number of new shareware authors seems to be doubling every fifteen minutes - eager to give you the same discounted price as they do to the chains - basically free - unlike hardware stores there.

If you tell the average plumbing fitting variety entrepreneur that he can start a business for \$10,000, it will entirely fund its own growth from that point, its primary product is provided by 20,000 different suppliers and his cost for the product (shareware) is essentially zero, it requires a handful of people to run even at large size, and there is no ceiling on what he can make, he'll either call you a liar or call his bank for the money but the natural instinct of this type of person is to call somebody somewhere when faced with such an opportunity. And that's basically what a BBS is in 1991.

At this particular time, it won't do him much good. The technical hurdles to running a BBS are still somewhat profound. The hardware, the software, the modems, are all quite complex and could be classified in some sense as still experimental. Right now, existing system operators have an enormous advantage. But it won't last. Eventually, the money people will want in. You probably have 18 months before this becomes serious but we're already hearing from them. When they arrive in force, we will see a lot of comically BAD but profitable bulletin boards. Following that, the cost of entry into the BBS industry will rise sharply and the opportunities of today, and the people who took advantage of them, will become part of the history and lore of yet another industry.

So if all this is so good, why do so many excellent BBS flounder around barely making their line costs? There are several reasons. Recall that most of the BBS operators are 36 year old corporate burnouts. They've had a paycheck every Friday for the last 15 years and while they want a business of their own, they are not all particularly well prepared for it. Then too, the expectation of a BBS as a profitable venture has very nearly been considered too much to hope for up to this point. They don't visualize it as a "real" business.

Well if you want to make money at it, it is one. It doesn't have to be a corporation. It can be very much a people business (and it is actually), but it is still a business. A new kind

of business, but many of the same old principles from Business 101 hold just as true for BBS as they do for hardware.

First, you have to have a product. Basically, people use BBS for two main functions right now, although there is a third niche that is somewhat successful as well. Currently BBS callers download shareware programs and files, read mail conferences, and download some more shareware programs and files, in that order. The third element is online chatting and that involves a special type of BBS that inverts the order a bit. On a chat system, callers tend to chat, download files, read a little mail, and chat some more. This is what people DO on a BBS and you have to have it on hand for them to do. So the obvious thing is to get LOTS of the latest files, organize and present them better than anyone else, connect to lots of mail networks, and organize and present them better than anyone else, and in the particular case of chat systems, get some interesting people on the system chatting so the callers have someone to chat with. By and large we are seeing a number of BBS do this quite successfully. Most operators actually have a good grip on what their callers do, how they want to do it, and what to do to allow them to do it. But these things are what people DO on a BBS. It's NOT why they call it in the first place and it rarely inspires them to subscribe. You MUST have these things to be successful, but by themselves, you're a ship without sales [sic].

Let's take a look at some inside scoop on CompuServe and GENie. Over half their income comes from chat. Most of the rest is file downloads with modest contribution from "forums" or "round tables" ala mail. I won't quote the exact percentages, although actually I DO have a pretty good idea what they are. But it will spark a lot of hot debate and heat that has little point. They do NOT like this information to be widely known and for good reason. If all but 5% or 10% of their income comes from these activities, why do they have scads of online databases, news services, stock quotes, shopping malls, and other bric-a-brac. The

reason is that most of what goes on when a caller calls a BBS happens entirely WITHIN THEIR OWN MIND. They can only view one 80X24 screen at a time so it's quite likely they can't possibly cruise everything on the simplest of BBS in a single session or even in multiple sessions. But when they dial that modem they have a distinct image in their mind of the "place" they are going to. This has some interesting connotations when you consider that part of their image is interactive with the images in other callers minds, and only barely connected with the hard drives, modems, and offerings of the intermediary BBS or online service.

In this mind imagery, CompuServe and GENie are BIG places. They have LOTS of things online and LOTS of people. Every time CompuServe and GENie add yet another zowie feature, they put a big sign up front asking everyone to come look at the new whiz bang database listing every springbok that ever mated on the Sarenghetti plain. And in the mind of that caller, the response is "zowie, Springbok! That's NEW. It's NEAT. And it means this place is getting even BIGGER". Then they go download another DOS shell program from one of the file areas. Perhaps they look at the Springbok ONCE. But the number of people spending significant time checking out the Springbok database on a regular basis approaches zero so fast it will damage your statistics package.

WHY PEOPLE CALL BBS

Callers love to picture the online world as a whole as BIG with LOTS of things online. To avoid the constraints of commercial services, they are willing to dial around to explore a bit. If they've already been on a BBS, and it had files and mail, and that was what they WANTED, they would never dial a second. But what people DO on BBS and what they WANT are two different things. They WANT to be surprised. They WANT something different for their call. Something new. Something unique. Something to make them think. Maybe they want SPRINGBOK. Maybe something else. After you've seen one Springbok, you've

pretty much seen them all. They explore primarily by downloading lists of other BBS and cruising the lists for something DIFFERENT. Or they read mail and find a mention of something DIFFERENT in one of the echoes and they call it. So basically, attracting people to your BBS is quite a different proposition from what people will actually do day in and day out once they are there.

To attract people to your BBS you need a theme. A theme you can state in 25 words or less. Ideally a theme that shows up in just the title of your BBS. If they are scanning 2000 BBS in a national BBS list looking for something to explore, each title gets about 10 nanoseconds of attention. Put yourself for a minute in their place. Here's the FILES AND MAIL BBS. A bit further down is the BIT BUCKET BBS followed by the DATA HOUSE BBS. And finally they see the LAWN CARE BBS. Which one will they call....?

Now granted, there is nothing exciting about lawn care for most of us. You water it, you fertilize it, then you cut it. It's then too short so you go back to step one. I know the game and that's it. Lawn care. It's not even one of those male bonding things. It's just grass. But the very idea of a BBS devoted to lawn care is DIFFERENT. It's UNIQUE. And I KNOW WHAT LAWN CARE IS. So I'll call it.

Once on, I will likely be enthralled to learn there is actually an entire WORLD of information about fusarium blight, the use of aluminum oxide and iron to green things up, 75 different models of weed whacker, GOOD reasons to buy the model BMW3002 lawn mower at \$275 over the Messerati 12000 at \$355. How DO you get rid of those pesky dandelions. I'll be EXCITED over the possibilities in Xeriscaping to cut my water consumption. And I'll keep cruising this gold mine of lawn lore UNTIL I HAVE A CLEARLY FIXED A MENTAL IMAGE OF WHERE I'M AT. Then I'll go download another DOS shell program.

Another reason theme is important is promotion. Ask anyone who runs a BBS - what you can do on

the system and why should anyone subscribe. Ninety seven times out of a hundred you've just opened a technical discussion that will go on for thirty minutes. Eventually, after covering the hundreds of mail areas and thousands of files element to receive only a blank stare, the system operator gives up in exasperation with "you can do anything you want to. It does everything." Not effective.

Promotion is often one-on-one, but many boards have been made by some good press. And a lot of operators know this. They contact their local papers, the local TV stations, magazines, etc. to try to get them to tell their story to the world. "If people just knew all the good stuff they have on there, they would call."

Put yourself in the place of the newspaper editor, TV news reporter, etc. What's the story? A dozen people have called that day wanting some press for their new dog food, their chamber of commerce meeting, and so on ad nauseum. Now here's a call from one of those computer people. The reporter needs a story. Staging the local dog fight for the cameras has been done to death. "Ok, champ, what's with your BBS?" he asks trying to sound interested. "FILES AND MAIL" you screech into the phone "LOTS OF DOS SHELL PROGRAMS!" His response? "What's a boss shale program?" You've just lost the battle - and you didn't even get a good seat at the war.

Scenario number two. Nicaragua and Argentina just bombed El Salvador and Chile. Venezuela has threatened nukes. You call the local TV station. "Ok, champ, what's with your BBS?" "We run a BBS system devoted to South American Politics. A number of local immigrants from South America use the system and we exchange messages with BBS throughout South America every night. You can ask questions online and get answers from people who are there. Been right here in town for two years." Your theme just matched the hot button.

All themes come due at some time. The lawn care BBS might be just the thing during a summer drought as a side story regarding water rationing. A couple of BBS operators were on CNN earlier this year for passing mail to Saudi Arabia (like who wasn't). Sports BBS during the peak of the local football season, and maybe local high school scores that AREN'T covered well by the bigger press. There are a million ways to tie a theme BBS into real world events at some time or another. There is NO way to tie a general files and mail BBS into anything in the real world, because people don't download files and read message conferences aside from the online world. There are just no parallels.

Themes play in smaller ways too. They allow connections to other real world businesses. Lawn Care BBS might do very well in affiliating with a couple of local nurseries and gardening shops. Scuba BBS with Scuba equipment suppliers, etc.

Another thing to note with regards to theme. You are what you say you are. Whole Earth Lectoric Link claimed for years that they were THE place for the technical elite and thoughtful "minds" to have "meaningful" discussions and that all the "cool" online people hung out there. It was no more the place for such meetings than my bathroom was - and probably less so on occasion. But they said it long enough, and got enough people to repeat it, that at this point it is quite true. I guess all the notables heard they were on there, and called in themselves to see what they were saying.

But most importantly, your theme is an integral part of the mental image your callers have of the PLACE they are visiting. The TITLE of your system and its THEME are important.

The resistance to themes and collections of data among system operators revolves around that four letter word - WORK. It takes a lot of work to collect and organize all the lawn care data there is. But even worse, operators who try to build a BBS based on equestrian issues, lawn care, or bacteria com-

plain that nobody uses it. "All the callers want to do is download files." Callers seem disinterested in lawn care to the system operator because he doesn't see them go into the database every day and pore over his latest dandelion species additions. Remember, most of your BBS is an image in their mind. That doesn't necessarily show up in your system log files. They know it is being maintained as probably THE lawn care database in the world. What they DO is download files. Don't disturb the image. Just keeping on mowing through the lawn care stuff. If you build it, they will come.

WHY PEOPLE SUBSCRIBE TO A BBS

People subscribe to a BBS for the simplest of reasons. They feel comfortable with their mental image of where they are and they want to BELONG there. Why? They are getting value. The place has LOTS of things. It's a BIG place. Games. Online news services. Weather reports. Stock quotes. Lists of things. And of course the lawn care database. Regardless of how rarely they play the games, check the list of HAM frequencies, etc., they know it's there and that's what makes up that image of place and value.

For example, if you run a BBS for online games, you should have LOTS of games. Many operators assume that since everyone actually plays one of the top two or three games, that it would be a great idea to simply delete all the others from the system, making the operators life a little simpler, and just have the two or three games everyone likes to play. Wrong answer. You've just destroyed the callers mental image of the BBS as a place with LOTS of games. He has LOTS to choose from. And even though he plays the same game every time he gets on, he knows it is just one of MANY he could play on the games BBS.

Secondly, they want to feel they matter. And to a struggling BBS, they DO matter so it all works out. A little personal service, a little attention, a little acknowledgement of them as a valued partici-

'WILDCAT! 3.0...'

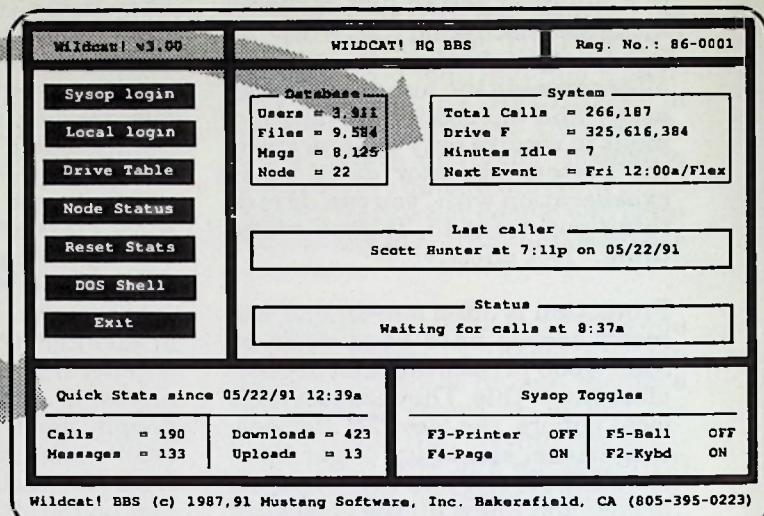
Right From The Start

Information on your most important system-wide statistics, including users, files, messages, and node ID number. System toggles are also displayed on screen.

Quick statistics can be reset from the idle screen here, or from any of the 65,000 events available 24 hours a day. A daily reset keeps the sysop informed.

Local activity buttons for login as sysop or user, drive space display, node status for all lines with caller activity information, and access to a DOS shell and menu facility for running other programs. Console activity can be password locked.

More Information including total calls, main drive space, how long since the last call and the next pending event.



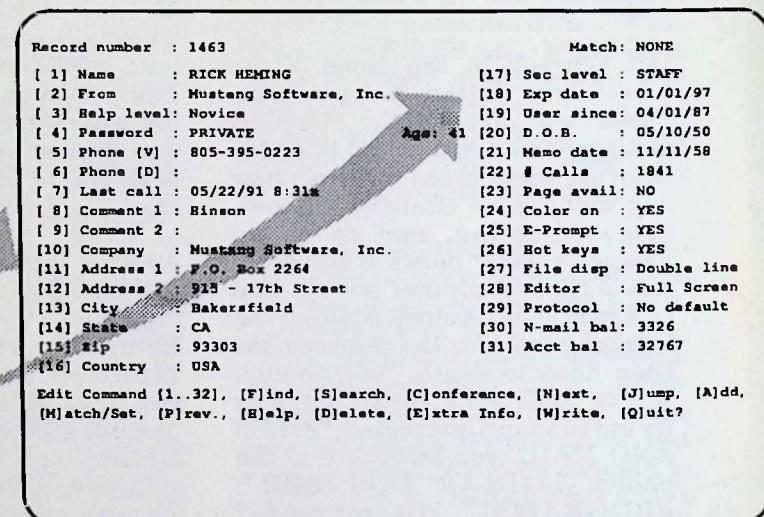
User Maintenance

Multiple access. This screen can be accessed from the sysop menu (naturally), but also after reading every message to enable editing users sending, receiving, or being discussed in a message. Exiting user maintenance immediately returns to the message you left.

Full demographic information including a second screen with an alias name and user-specific conference and file area access overrides.

Control by conference (1,000 of them) for co-sysop status, user title, log-on time and more.

Match by security or expiration date to view all who meet your criteria, then [W]rite them a message explaining the changes with immediate return to the user record.



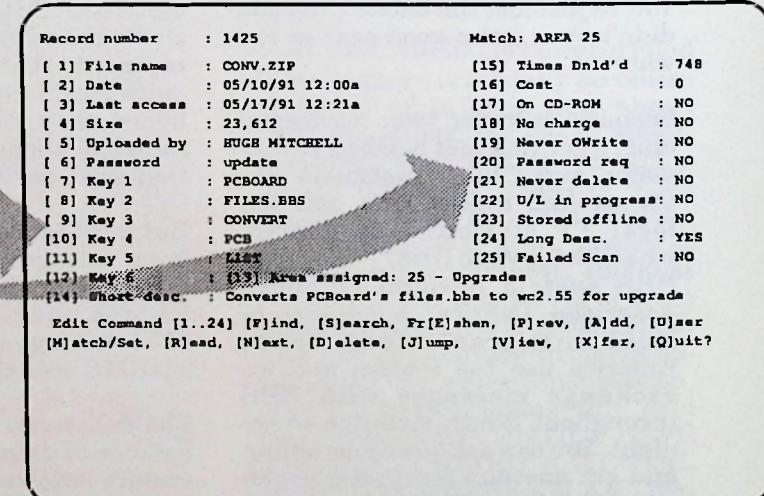
File Maintenance

Database security Only the files you specify in the B-Tree indexed database can be downloaded, and you can catalogue up to 2 billion files from 1,000 file areas and 4,000 subdirectories.

6 Keywords provide fast indexed file searches. They can be entered by the caller, or generated from the description.

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Marking Files

File listings can be formatted as single line, double line or full file information display. Get full [I]information on any file including the extended 15 line description, [V]iew a compressed file, [D]ownload or [M]ark files after each screen display.

Mark files by numbers such as 1-5, 7, 9 rather than typing the cryptic filenames. Continue to view the listing until you have marked all desired files, then request a download and preview your marked list.

File Search based on name, keyword, uploader or description text also allows file marking of found files for later download.

File Transfer

Batch downloads are supported using internal Ymodem, Ymodem-G, Zmodem, and Kermit, and a special batch emulation for sending batches of previously marked files using Xmodem, Xmodem-CRC and 1K-Xmodem. External protocols can be added easily. Ymodem-G reaches 1750+cps!

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ANAHEIM	AURORA	714/433-4473	MISSOURI		BINGHAMTON	602/724-9866	CHARLESTON		
BAKERSFIELD	BLOOMINGTON	714/444-1173	COLUMBIA	314/449-0729	BUFFALO	716/638-1475	CLEAVERSON		
CANOGA PARK	CHAMPAIGN	818/999-9068	JEFFERSON CITY	314/634-0252	ITHACA	607/277-1591	COLUMBIA		
EL MONTE	CHICAGO	818/444-1173	KANSAS CITY	816/842-3009	MELVILLE	516/753-2030	GREENVILLE		
ESCONDIDO	DE KALB	619/747-5803					HARRISONBURG		
FRESNO	DECATUR	209/233-1291					LYNCHBURG		
INGLEWOOD	DECATUR	213/337-1187					NORFOLK		
IRVINE	DES PLAINES	714/476-3736					RICHMOND		
LANCASTER	JOLET	708/825-5070					ROANOKE		
LONG BEACH	JOLET	213/428-9140					SOUTH DAKOTA		
LOS ANGELES	KOLOM	916/742-4114					RAPID CITY		
MARYSVILLE	KOLOM	209/576-2451					Sioux City		
MODESTO	KOLOM	408/899-8846					Sioux Falls		
MONTEREY	KOLOM	415/268-3782					Sioux City		
OAKLAND	KOLOM	415/268-3782					Sioux City		
OXNARD	KOLOM	805/486-8699					Sioux City		
PASADENA	KOLOM	818/584-1194					Sioux City		
PLEASANTON	KOLOM	415/734-8801					Sioux City		
POMONA	KOLOM	714/622-1224					Sioux City		
REDDING	KOLOM	916/244-0920					Sioux City		
SACRAMENTO	KOLOM	916/362-4103					Sioux City		
SAN BERNARDINO	KOLOM	714/881-3385					Sioux City		
SAN DIEGO	KOLOM	619/573-0224					Sioux City		
SAN FRANCISCO	KOLOM	415/986-4292					Sioux City		
SAN JOSE	KOLOM	408/866-5784					Sioux City		
SAN LUIS OBISPO	KOLOM	805/544-1979					Sioux City		
SAN MATEO	KOLOM	415/377-1985					Sioux City		
SANTA BARBARA	KOLOM	805/966-7868					Sioux City		
SANTA MARIA	KOLOM	805/228-8857					Sioux City		
SANTA MONICA	KOLOM	213/458-6598					Sioux City		
SANTA ROSA	KOLOM	707/579-2642					Sioux City		
STOCKTON	KOLOM	209/944-5947					Sioux City		
SUNNYVALE	KOLOM	408/746-1391					Sioux City		
VALLEJO	KOLOM	707/643-3592					Sioux City		
VAN NUYS	KOLOM	818/376-1004					Sioux City		
WALNUT CREEK	KOLOM	415/256-8050					Sioux City		
COLORADO	IOWA						Sioux City		
COLORADO SPRGS.	AMES	515/233-4460					Sioux City		
DENVER	AMES	203/377-1985					Sioux City		
FORT COLLINS	AMES	303/471-5612					Sioux City		
GRAND JUNCTION	AMES	303/243-2870					Sioux City		
PUEBLO	AMES	719/545-3411					Sioux City		
CONNECTICUT	LEXINGTON						Sioux City		
BREDGEPORT	LEXINGTON	203/579-1122					Sioux City		
DANBURY	LEXINGTON	203/748-2648					Sioux City		
GREENWICH	LEXINGTON	203/429-2070					Sioux City		
HARTFORD	LEXINGTON	203/659-9634					Sioux City		
NEW HAVEN	LEXINGTON	203/234-2000					Sioux City		
NEW LONDON	LEXINGTON	203/442-7245					Sioux City		
NORWALK	LEXINGTON	203/833-0179					Sioux City		
WILLMINGTON	LEXINGTON	203/456-4143					Sioux City		
DELAWARE	MAINE						Sioux City		
WILMINGTON	MAINE	302/454-7834					Sioux City		
DIST. OF COLUMBIA	MAINE						Sioux City		
WASHINGTON	MAINE	301/349-3482					Sioux City		
FLORIDA	MAINE						Sioux City		
BOCA RATON	MAINE	407/488-1788					Sioux City		
CLEARWATER	MAINE	813/441-9948					Sioux City		
DAYTONA BEACH	MAINE	904/258-7007					Sioux City		
FOUNT LAUDERDALE	MAINE	305/753-6571					Sioux City		
FORT MYERS	MAINE	813/375-5401					Sioux City		
GANESYVILLE	MAINE	904/374-8700					Sioux City		
JACKSONVILLE	MAINE	904/355-6102					Sioux City		
LAFAYETTE	MAINE	813/688-7155					Sioux City		
LEWISTON	MAINE	407/639-6090					Sioux City		
MIAMI	MAINE	305/585-9124					Sioux City		
NAPLES	MAINE	813/261-7227					Sioux City		
OCALA	MAINE	904/732-5581					Sioux City		
ORLANDO	MAINE	407/298-8201					Sioux City		
MAINE	ANNAPOLIS	301/626-1451					Sioux City		
NEW HAMPSHIRE	ANNAPOLIS						Sioux City		
MARYLAND	ANNAPOLIS						Sioux City		
NEBRASKA	ANNAPOLIS						Sioux City		
NEVADA	ANNAPOLIS						Sioux City		
OREGON	ANNAPOLIS						Sioux City		
PENNSYLVANIA	ANNAPOLIS						Sioux City		
RHODE ISLAND	ANNAPOLIS						Sioux City		
VERMONT	ANNAPOLIS						Sioux City		
WISCONSIN	ANNAPOLIS						Sioux City		
WYOMING	ANNAPOLIS						Sioux City		
Public Data Network	ANNAPOLIS						Sioux City		
Online nationwide	ANNAPOLIS						Sioux City		
... at a neighborhood price	ANNAPOLIS						Sioux City		

- LOGON PROCEDURE**
1. Set your software for 8 Bits, No Parity, 1 Stop Bit.
 2. Dial the number nearest you.
 3. At the "CONNECT" message slowly type four periods <RETURN>
 4. At the "SIGN ON" prompt type: **PBLICNET <RETURN>**



Public Data Network
... at a neighborhood price

9600 BAUD LOCATIONS

PHOENIX, AZ	602/893-6648	ST. LOUIS, MO	314/863-5120
INGEWOOD, CA	213/337-1833	WEST ORANGE, NJ	201/669-5769
SAN FRANCISCO, CA	415/985-5492	NEW YORK, NY	212/765-0860
SAN JOSE, CA	408/374-0311	SYRACUSE, NY	315/422-1610
DENVER, CO	303/770-1820	WHITE PLAINS, NY	914/741-2918
WASHINGTON, DC	301/369-0008	CINCINNATI, OH	513/761-7239
LAWTON, OK	405/324-0187	CLEVELAND, OH	216/529-9606
ATLANTA, GA	404/671-1282	OKLAHOMA CITY, OK	405/343-5006
CHICAGO, IL	312/446-4901	PHILADELPHIA, PA	215/557-8236
BOSTON, MA	617/890-3140	PITTSBURGH, PA	412/341-7608
BOSTON CENTER, MA	617/480-8077	DALLAS, TX	214/788-4778
SOUTHFIELD, MI	313/352-7277	HOUSTON, TX	713/981-4116
MINNEAPOLIS, MN	612/858-1617	SEATTLE, WA	206/462-1262
KANSAS CITY, MO	816/221-4978	MILWAUKEE, WI	414/821-0756

BARTLESVILLE	918/336-0461	ST. LOUIS, MO	314/863-5120
LAWTON	405/353-4091	WEST ORANGE, NJ	201/669-5769
OKLAHOMA CITY	405/324-0187	NEW YORK, NY	212/765-0860
STILLWATER	405/372-8856	SYRACUSE, NY	315/422-1610
TULSA	918/663-2606	WHITE PLAINS, NY	914/741-2918
OREGON	503/734-9608	CINCINNATI, OH	513/761-7239
EUGENE	503/683-7773	CLEVELAND, OH	216/529-9606
GRANTS PASS	503/474-6662	OKLAHOMA CITY, OK	405/343-5006
KLAMATH FALLS	503/880-1619	PHILADELPHIA, PA	215/557-8236
PORTLAND	503/774-6820	PITTSBURGH, PA	412/341-7608
MEDFORD	503/297-8687	DALLAS, TX	214/788-4778
PORTLAND	503/297-8687	HOUSTON, TX	713/981-4116
SALEM	503/474-6957	SEATTLE, WA	206/462-1262

pant, is all both legitimate and little enough to ask. And it's the type of thing that BBS will always be able to do better than commercial services. The caller is a people and you are a people. CompuServe is an income tax service company.

Bob Mahoney arguably runs what is widely considered to be the largest most successful BBS in the world in EXEC-PC with 230 lines. The man hardly has time to check to see what season it is outside and he has relatives mail him sunshine for holidays. Why? He makes a serious attempt at personally answering EVERY e-mail message sent to him on the system - typically a couple hundred messages DAILY. I'm going to guess that if he still does that after eight years of operation, he must believe it's important. I'm going to further guess that he doesn't do it because he's successful, but that he's successful because he does it.

And finally they subscribe because the system works for them. The mail is in the right place, there's lots of it, and it works. There are lots of files, they're organized well, and they seem to have a lot of current stuff - new files, latest releases, nice categories, easy to use.

TWO SIMPLE TECHNIQUES TO QUADRUPLE YOUR SUBSCRIPTIONS AND CASH FLOW

All this is entertaining. But let's boil it down to a couple of simple things any BBS that is doing any subscription business at all can do to multiply their cash flow by a factor of four immediately. These aren't guesses. We've talked with hundreds of BBS operators and listened carefully to the successful ones.

These two techniques are completely self evident to anyone who's been in business any length of time at all and completely escape the vast majority of people running bulletin board systems. Actually, I would imagine they are aware of them, it's just that they are not convinced that the extra effort makes THAT much difference. So let me state for the record, it makes THAT much difference.

PRINT FOLLOW-UP

Technique number one is print follow-up. The great fallacy of online communications is that it eliminates paper. Negative. It generates more of it. Let's go back to our "explorer" caller. They download a BBS list, they rarely stop at the lawn care BBS and proclaim "that's IT, I've FOUND something different." They know that the list might be old. The number might have changed. The BBS may have changed its focus to child care. Or it might not really have anything to do with lawn care because the system operator noticed none of his regulars were spending much time in there and gave up maintaining the information.

Most likely, the caller makes a list of six or eight BBS they want to call to explore. And as soon as they get off of LAWN CARE BBS, they dial HORSE MANURE BBS, and then VIOLIN MUSIC BBS, and finally HANDICAPPED LITHUANIAN ADOPTEES BBS. The numbers are written on little yellow stickies if they are well-heeled callers, and real estate promotional note pads they get free in the mail by the dozens if they are like me. The caller goes down his list, hits the six BBS that night, wraps it up by downloading a DOS shell or two, and collapses exhausted at 2:00 AM. The next day, they either get up and go to work, or if a weekend in season, they mow the lawn.

Assuming the lawn care BBS made an impression and the caller wants to dial again a day or two later, the yellow stickies are gone or buried in the pile and the odds of him finding the telephone number in the pile, and recognizing the scribble, are approximately zero.

The mailman comes by a day or two later and drops off the usual pile of real estate promotional note pads. And among them is a small, inexpensive mailer from LAWN CARE BBS. It has the TELEPHONE NUMBER of LAWN CARE BBS. It says THANKS FOR CALLING US and the immediate impression the caller gets is that he was noticed. He mattered. After dialing hundreds of BBS, one of them bothered to acknowledge his existence on

the planet. And looky here, a list of the most popular message areas, a stupid lawn care trick, and a list of the top 20 downloads, INCLUDING A DOS SHELL PROGRAM HE'S NEVER DOWNLOADED BEFORE. If it's really elegant, it has his PASSWORD and LOGON name printed on it - just for him. So he has the telephone number, he has the logon and password, and he's been acknowledged to exist. What more could he want.

This technique will probably grow less effective as each of the 30,000 BBS pick up on it and we are all deluged with little mailers. But it is VERY effective now. Some operators report recalls as high as 60% and subscriptions of as high as 20% in response to direct mail follow up. Look at your own mailbox. It's full of junk mail - very EXPENSIVE junk mail for the mailers to produce, and its there because it works. And the response numbers we're hearing from system operators who use this technique wouldn't even be BELIEVED by the companies that are routinely stuffing your mailbox with panty hose coupons. We got one little fold up/stand up card with our name and logon on it and the system menus that we STILL have around the office someplace and I know for a fact the BBS went down over 18 months ago.

This actually works BETTER for BBS than for almost any other type of business. And it's because of the ethereal nature of the medium. The caller knows he called the BBS. But he doesn't know if anyone noticed. And without some acknowledgement, the act isn't really connected to the real world. Amateur Radio operators have provided this real world validation of a rather wispy connection for many many years in the form of QSL cards. If you make contact with a radio station halfway around the globe and report how their signal is coming in at your location, they in turn mail you a little postcard that does almost nothing except note that the contact was made and that you exist. The pictures/logos on these QSL cards advanced over the years to become virtually an art form and many radio operators have extensive collections of these fascinat-

ing, colorful, and in many cases artistic QSL cards. Print follow-up works for BBS in much the same way and for many of the same reasons.

Obviously, a four color, sixteen page brochure designed by a New York advertising agency, with a subscription form and prepaid business response envelope will work best, but very simple and inexpensive mailers do the job pretty nicely in the beginning. Many operators simply print both sides of an 11X17 colored sheet in black ink, and fold it in half to create a quarterly newsletter. They mail it to existing subscribers in a batch, and keep the rest around to mail out to new callers as they dial in.

Timing is oddly important and I'm not sure why. But we have worked with some boards on some experiments. Basically, if you mail the following day to all new callers, the print follow up is approximately twice as effective as if you mail to all new callers once a week in a batch. Perhaps it's the immediacy of receiving a mailer three days after logging on. If they were an early week caller and you mailed weekly, it can be as long as ten days after their call that they get the follow up. Apparently, it's not nearly as interesting at that point. The bottom line is that this is one of those things most operators realize might help a little, but it's quite an expense in time and effort and most don't feel it will make THAT much difference. It does.

ONLINE SUBSCRIPTIONS BY MC/VISA

This is actually the most important one. You must accept subscription payment online by Master Card or Visa. All system operators know it would help but the difficulties and expense of obtaining a merchant account are often perceived as "not worth the trouble." We have talked to several dozen BBS operators before and after they were able to take Master Card and Visa and tracked their experiences fairly closely. The number they report is eerily UNANIMOUS at 90%. At least 90% of their subscriptions are by Master Card or Visa. Another

magic number. They are all 36 years old and their subscriptions are all 90% Master Card and Visa.

Let's assume they are all LYING to us by 10%. Let's assume another 10% of their callers that subscribed by Master Card or Visa would have sent a check anyway (they wouldn't have but let's assume). That still leaves 70%. And what that means is that if you are operating a BBS right now and are taking in \$200 per month in subscriptions by check, that you are really operating a BBS with an \$800 monthly cash flow and it's just as if you had handed \$600 back to your callers each month and told them to hang it up on their refrigerator door with a little smiley-faced magnet to hold it in place.

Why is this? Most callers at this point understand more about the economics of BBS than system operators give them credit for. They don't know what ANSI terminal emulation is perhaps, but they do understand pretty quickly that FREE in the BBS world is a euphemism for BUSY. And they don't mind BUSY for the first three weeks of their online career but after that, they can't stand it for even a minute. If you're not running multi-line, you can't be serious about running a BBS and multi-line and FREE is a rare combination.

So a certain percentage of your callers are going to be willing to pay a reasonable annual fee to ensure their convenience in dialing a BIG place with LOTS of things, no BUSY signals, and a place they feel welcomed and acknowledged so they can download more DOS shells and maybe read some mail. They will give you the money gladly.

What they WON'T do in the vast majority of cases is go on the U.S. Postal Service Easter Egg Hunt. This is the little game where you find the address, find the checkbook, find an envelope, and find a stamp, wrestle them all into the same room AT THE SAME TIME, write the check, make an entry in the checkbook, put it in the envelope, correctly address the envelope, seal the envelope, and shepherd it to a mail box before any of

the pieces get lost. If they LIVE on your BBS, you're not THAT important. And if you WERE, you wind up with an envelope, a check, and NO IDEA who sent it to you because they didn't bother to tell you who they were or what they wanted. They absolutely weren't going to write you a letter or print out your subscription form and fill that out. Not in this life anyway.

I have recurring nightmares of thousands of checks made out to Boardwatch Magazine hanging from refrigerator doors all across the nation. It's enough to give you a chill.

What they will do is while at the terminal, reach into their hip pocket, pull out their credit card, and type the numbers into your BBS. That's about as far as they can reasonably be expected to go to support your system. If you make it convenient and rewarding for them to do so, you win. If you don't, you lose. It's not a matter of fair, appropriate, or any of those other delightful wishful things. It's just the way it is.

We've repeatedly heard from operators who put up online credit card validation programs, who actually receive messages from callers who appreciate what they are doing, and had always INTENDED to send in money and subscribe, but just never quite got around to it until now. The reason they hadn't gotten around to it is that it was inconvenient. When you make it convenient, you will automatically quadruple the registrations to your system - all other things being equal.

The chorus response from BBS operators to this bit of news is that merchant accounts allowing MC/Visa processing are very difficult to obtain from banks at this point. Perhaps so. But the world is curiously disinterested in your troubles in this area. If you are going to operate a BBS for profit, it is absolutely a requirement that you be able to process MC/Visa to be successful. There is no way to be a "little bit successful" without it. It is an electronic world, and the electronic medium of exchange of funds at this point happen to be credit card numbers. You can't suc-

SYSTOP! GET EUROPEANS TO CALL YOU AT NO EXTRA CHARGE !

- We are looking for interesting U.S. BBS systems, Support Boards and Online Stores which our European users can access.
- Thousands of i-Com users call the U.S. because it is the cheapest way to call USA.
- Send us a fax or a letter indicating your BBS name and access number and we'll contact you.



Stats on Europe:

- Population around 450 million
- High level of English literacy
- Computer industry expanding rapidly

Stats on i-Com users:

- People from all professions
- Everybody speaks English
- 95% pay with VISA or MasterCard

i-Com, 4 Rue de Genève B33, 1140 Brussels, Belgium. Tel: 011 32 2215 7130. Fax: 011 32 2215 8999

ceed by telling three-quarters of your paying customers to go away because the bank has not dealt with you kindly.

In most areas of the country, merchant accounts are actually obtainable. We have followed a number of operators who "couldn't" get accounts that now have accounts so it can be done. Most operators approach a teller at their local bank, and receive a firm NO in response along with an explanation that it isn't really the banks fault - some ethereal other entity forces this policy on them. The typical system operator returns home satisfied that nothing he can do or say will change the situation and that merchant accounts are unobtainable. It isn't so.

Actually, the local bank has almost complete control over who gets a merchant account and who does not. The problem is fraud. Banks are quite justifiably terrified of it because the credit card network does not absorb any losses at all. If

a merchant charges an account fraudulently, and the charge is levied back against his account, and he's unable to pay it or has disappeared, the bank that issued the merchant account eats the entire amount. This isn't actually a theoretical. It happens almost daily at an ever increasing pace and there have actually been cases of smallish Florida banks who have gone down as a result of large scale fraud operations. And mail order and telephone sales seem to be continually at the heart of fraud and the telephone boiler room operations are about 110% involved in it. As a result, banks ARE hesitant about issuing merchant accounts and the vague comprehension they might have of a BBS is not at all reassuring. As soon as you say the word TELEPHONE their little cajones crawl up into their wallets and hide.

But if you persistently present your case in a professional manner to a knowledgeable bank officer, in most cases you can obtain one. We

If you:

- Give us an ANSI screen "advertisement", and
- give our i-Com users an incentive (e.g. 6-month free membership)

We will:

- Post your ad on i-Com,
- offer our users Quick Dial access to your system

Ideal for Popular Boards,
Support and Online Stores!

read an online account from one home-based businesswoman, entirely unconnected with BBS actually but in the same basic mail order/telephone situation, of how she obtained a merchant account. Basically, she had persistently approached two local banks where she had accounts and had been completely discouraged both times. In desperation, she mailed a letter to every bank in the area, honestly describing her business, noting her complete lack of a credit history, and the plight she faced in not being able to process credit card charges and the effect it was having on her business. THREE banks stepped forward to offer her accounts and she was able to choose the best from among them. We can only guess that rather than the pressure of a face-to-face confrontation, they were able to consider the case at their own leisure from the lucidly written letter and decided to extend her the account.

In some cases, it may help if you offer to post a significant bond to guarantee the account's expected activity. And it is true that in some areas, California most notably, it can in fact be genuinely difficult to obtain a merchant account. Usually, in areas where it is most difficult, you will also find service companies that act as an intermediary in processing credit card charges. Typically, you lease about \$200 worth of terminal equipment at \$40 per month for four years and they in return process your credit card charges. In other cases, you may be able to work out something with someone who runs a business, knows and trusts you, and is willing to process your charges for an attractive percentage of the flow. But for BBS's, the gain is so dramatic that any processing fees are usually insignificant when compared with the increase in subscriptions.

The accelerating move toward small and home-based businesses is likely to emphasize the need for merchant accounts for small entities at precisely the same time that credit card fraud is increasing the problems for our banks. The final resolution of these conflicting trends is a little unclear, but extremely important to an "online" economy. One element that seems to be gaining favor is service companies that act as an intermediary between banks and merchants.

In the final analysis, we see subscription-based BBS as an emerging growth industry of unprecedented opportunity for those who are looking for a home-based business that can be started with little capital, and virtually no limits to success. By developing a strong theme, promoting your BBS as widely as possible, developing a print follow-up program, and allowing your callers to conveniently subscribe while online, you can be one of those who got into the online services industry back in the early nineties. Or if you prefer, you may be just one of those who could have.

BBS SOUTH OF THE BORDER - A LOOK AT MEXICO

by Javier Matuk, Editor
Personal Computing/Mexico

The history of Bulletin Board System's in Mexico began on December 1987 with the installation of MicroTel, considered the first 24-hour public BBS in the country. MicroTel was based on Wayne Bell's WWIV software and was installed by **Javier Matuk** and **Jorge Kóbeh**. The machine used was an XT with a 30MB hard disk and a 1200 baud internal modem.

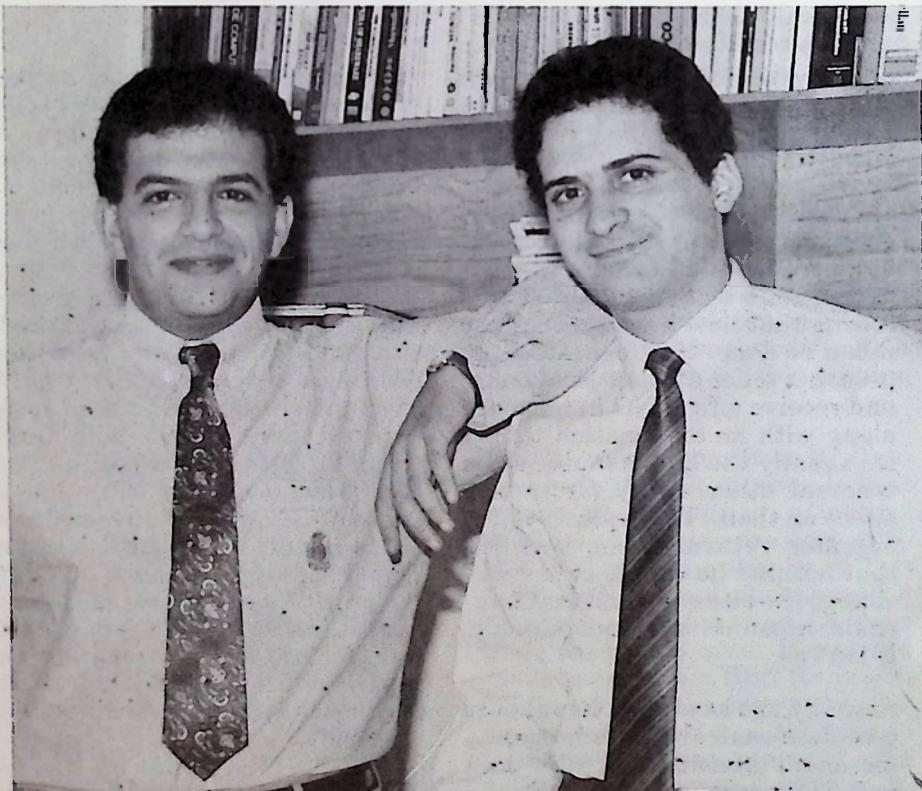
In September 1988, **Jorge Bistení** brought up ServiNet - the first alternative to MicroTel, which by this time had about 500 active users which made it a bit congested. ServiNet was the second

public Bulletin Board System in Mexico and also operates with WWIV.

MicroTel by this time had a 60MB hard disk and a 2400 baud modem. Using WWIVNet, the two systems linked up to exchange mail in December 1988, forming the first Mexican BBS network. This network (later called "Cosmos") is growing and now has 14 BBS's here in Mexico City and five others in other major cities of the country. In total, the **Cosmos Network** has about 20 BBS's operating daily in Mexico.

All of these systems are running with WWIV software. Some local Sysops took on the task of modifying the program source code so all messages would be in Spanish. Though language is not a significant barrier, it's a help for the beginners in telecommunications.

MicroTel ceased operation as a WWIV BBS in January 1990. After 25 months of operation, with about 25,000 calls and 600 active users it was the central node of Cosmos at



*Javier Matuk (left) and Jorge Kóbeh
Sysops of Microtel - First BBS in Mexico.*

the time. ServiNet took its place and is still the main node for the 20 systems of the growing Cosmos network. It is now the most famous free BBS in all the country (with an XT, 30MB hard disk and 2,400 MNP baud modem). MicroTel evolved into a professional information service titled SPIN.

SPIN. El Sistema Profesional de Información

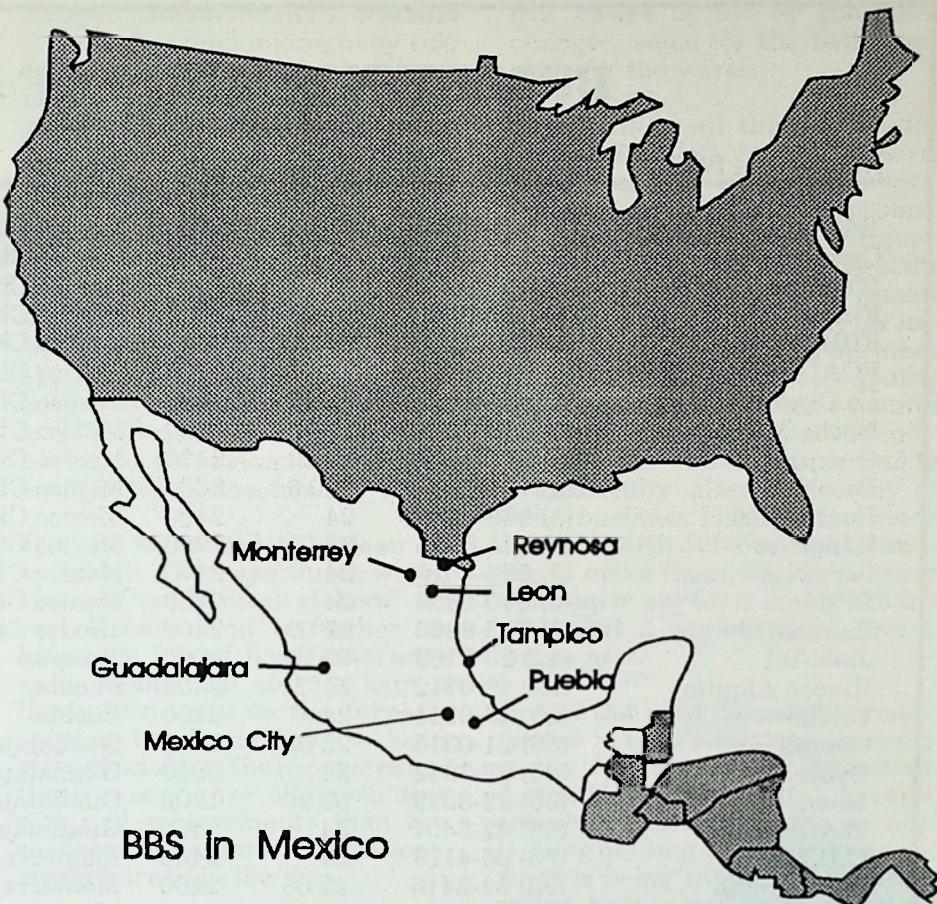
The idea was to close MicroTel and to give rise to a bigger system to agree with the user's needs. After many months of search and test, and after making a selection, the TBBS software was chosen for its easy configuration and the suitability to the Spanish language. SPIN began to work on January 2nd, 1990 with two telephone lines at 2400 baud and 80MB hard disk.

Today it has four phone lines, 150MB hard disk and 2 modems with MNP-5. The main services are:

- Electronic mail
- RoundTables (for discussion and conversation)
- File collections for IBM-PC, Amiga and Macintosh
- Magazines on-line:
- Personal Computing/Mexico (in Spanish)
- Shape Mexico (in Spanish)
- Boardwatch Magazine
- The contribution from two journalists that work for the major newspaper in Mexico
- USA Today Decisionline
- Information about the most important events in the computer's market in Mexico
- Games on-line

The initial system's design confused users in the habit to use WWIV, so in January 1991 the service was substantially modified. This was done by reordering the menus and the options in the screen.

There is an account for guests in which the users that are not subscribers may test and know the service and buy the subscription kit by charging it to a major credit card. The Kit's price is \$28 and the



BBS in Mexico

monthly fee is \$13. This includes 90 minutes a day for connection and 300,000 bytes for downloading.

Today the service has about 150 active users, including students, engineers, doctors, business men and a priest. One of the main obstacles that we have is that there isn't a good know-how about telecommunications, but little by little we are getting more information on this to our customers. We offer technical support by phone to those users making their first modem call and sometimes these calls last more than 30 minutes. This help is without charge.

SPIN is growing and we are constantly looking for new services to offer. We have a special area for the Mexican office of Microsoft, where they offer information, press releases, new products, drivers, demos, etc.

Large international firms are surely going to use telecommunications satellites and the biggest computing systems. But SPIN is

the best option for small and medium companies, the same to those in the states and to the Mexican ones that begin to have commercial trades and require electronic communications. The interested users first must contact their representatives or partnership in Mexico to know if they have modems and basic communications knowledge, so both can be SPIN's users to start using the service. We can offer free phone help for those who may be interested.

SPIN's duty as a commercial link between both countries is important and it's always available. You can logon as a guest "HUESPED" by dialing 590-5834 or 590-5988 (with 2400 MNP) and 590-5937 or 590-5967 for standard 2400 baud, in Mexico City. When dialing from the U.S. dial 011 for the international switch, 52 for Mexico's country code, and then the BBS number.

BULLETIN BOARDS OF MEXICO

Nombre del BBS	91 Teléfono	Horario	BPS	Ciudad	Notas (Nodo.Red)
TeleLink	(5) 598-7194	24	2400	Mexico City	9500.WWIVnet, BBS-MEX
CompuCom	(5) 395-4339	24	2400	Mexico City	3.Cosmos
Máquina Tiempo	(5) 511-9448	18 10	2400	Mexico City	10.Cosmos
FimpesTel	(5) 564-1679	?? ??	2400	Mexico City	13.Cosmos, Limitado
FIBBS	(5) 550-5151	24	9600	Mexico City	
FCADESP - UNAM	(5) 550-5634	24	2400	Mexico City	
La Cueva	(5) 554-5132	21 07	2400	Mexico City	
Noche Mágica	(5) 653-0173	21 00	1200	Mexico City	* * NUEVO **
Oraculo	(5) 677-3446	19 22	2400	Mexico City	* * NUEVO **
PacoNet	(5) 754-7385	22 10	300	Mexico City	* * NUEVO **
Punto BBS	(5) 543-6530	24	2400	Mexico City	
RadioNet	(5) 575-8995	22 09	1200	Mexico City	
ServiNet	(5) 575-4519	24	2400	Mexico City	6.Cosmos
SPIN	(5) 590-5834	24	2400	Mexico City	1.Cosmos
SuperBBS	(5) 203-9263	19 09	2400	Mexico City	Multilinea (4)
JaiboTel	(12) 28-0168	09 16	1200	Tampico	WWIVlink
Rincon Alquim	(22) 48-0712	?? ??	2400	Puebla	11.Cosmos
UniTel	(22) 46-0241	24	2400	Puebla	* * NUEVO **
CompuTel	(36) 21-0315	22 09	2400	Guadalajara	2.Cosmos
CyberNet	(36) 22-7942	24	9600	Guadalajara	4.Cosmos, CD-ROM
Isaonet	(36) 22-3319	08 20	1200	Guadalajara	WWIVnet/link, FidoNet
TecoTel	(36) 42-5407	24	2400	Guadalajara	7.Cosmos
C.D.L.N.	(83) 56-4119	24	2400	Monterrey	831.WWIVnet
Tecnodromo	(83) 54-2416	22 08	2400	Monterrey	30252.WWIVlink
The Hellcat Byte	(83) 50-0908	23 08	2400	Monterrey	
UniRegio	(83) 44-6068	24	2400	Monterrey	8.Cosmos
5ta Dimension	(83) 58-3384	23 06	2400	Monterrey	MAC
HAL-9000 BBS	(451) 6-7977	21 08	2400	Morelia	832.WWIVnet
BajioNet	(471) 5-0916	24	2400	León	9.Cosmos
TecnoNet	(471) 4-4819	24	2400	León	
PC Net	(471) 22-718	?? ??	???	León	14.Cosmos
UmanNet	(892) 2-2031	?? ??	2400	Reynosa	12.Cosmos

DIAL 011 for International Switch, 52 for Mexico, and then the listed telephone number.

PC-COURIER. SPANISH COMMUNICATIONS SOFTWARE.

This new product developed also by Tecnología Uno-Cero, SA de CV is a communications package with all the characteristics found on any other high-level communications software, but it's in Spanish language.

With PC-Courier we are trying to satisfy the domestic need for a Spanish language terminal program here in Mexico. But PC-Courier is also sold in the states for

those people that do not speak English for those that the Spanish language is their native language.

The package includes phone directory, MNP-5 emulation by software, a 100+ function script language, protocols for transmitting files and many more functions. There is an evaluation version available (on Exec-PC and Boardwatch) for those that may be interested to know this new program. The price is \$99 (plus s&h). It includes the users' manual with more than 100 pages.

The package was programmed in C and Assembler, with more than 40,000 lines of code and its development has taken more than 15 months.

Mexico is advancing really fast in the telecommunications area. Services like SPIN and the recently introduction of the cellular phones in the main cities of the country prove it. The Mexican government has requested two new satellites manufacture and the terrestrial microwaves network is on constantly extension. The SCT "Secretaria de Comunicaciones y Transportes" (equivalent to FCC)

is really making all the effort to be on vanguard in telecommunications services.

A few months ago the phone company Telmex was sold by the government. With this we hope that in about 2 years the present phone request in the main cities of the country may be satisfied. Now new rural towns are being incorporated to the phone service (a few days ago it was announced that 140 small towns have phone services now). In Mexico there are many contradictions, while in a single building you can find 1,000 telephone lines, in some far places in the country you can hardly find one.

Not only the telecommunications, the banking was expropriated 9 years ago, now the banks are being restored to the private sector. This is a complicated lapse of time and there are many potential Mexican buyers.

Little by little, but with big steps, with the idea to reorganize our economy and to improve the popular level of life, everybody in Mexico is working hard, very hard. We are the model for all of Latin America's countries.

[*Javier Matuk is editor of Personal Computing/Mexico and one of the founders of SPIN. El Sistema Profesional de Información. Javier Matuk, Tecnología Uno-Cero, S.A. de C.V., Cuenca No. 87-4, Colonia Alamos, 03400 Mexico, D.F. - Editor*]

LONG DISTANCE USA

EPA CLEAN AIR BBS

There was a day in February 1939 that became known as "black Tuesday" in St. Louis Missouri. The city suffered a bit of a temperature inversion and the output of coal soot from a half million homes and factories spouted into the air and found no place to go. River traffic on the Mississippi stopped and tied up at the banks. Train traffic

stopped outside the city. It was said to be darker than midnight by 1:00 in the afternoon and most businesses closed their doors to let employees find their way home as best they could in the pall of black soot that covered everything.

With a change in weather, the pall cleared, but air was not a good thing in St. Louis at that time. Women scoured their sidewalks with bleach to rid them of creeping black stains. Laundry hung outdoors came in about as dirty as it had been before washing. The temperature inversion had simply brought things to a head.

The city embarked on a clean air campaign. The major thrust was to require "mechanical stokers" for coal furnaces and to further require the use of hard anthracite coal. Mechanical stokers kept a flow of fine coal to the furnace, causing the home fires to burn more efficiently. The expensive anthracite coal gave off much less soot and contaminants than the cheaper soft bituminous coal commonly burned in the area.

There were howls of rage as the city's 2000 coal delivery companies threatened to ignore the regulations. Times were a bit different then and instead of the bureaucratic ego dance of our current government, no fines or closures were threatened in those days. The city simply announced they were going to open their own coal delivery service and deliver all the coal themselves - hard anthracite coal. The coal operators immediately fell into line and the city of course never went into the coal business.

Illinois, which employed thousands in their numerous soft bituminous coal mines staged an economic boycott of St. Louis. The ban on soft coal was virtually an economic act of war against Illinois which shipped millions of tons of soft coal to St. Louis each year.

But while it caused enormous economic dislocation in the area, it worked. The air improved dramatically virtually overnight. The air in St. Louis today, while still the subject of some complaint, is brilliantly clear in comparison to the dark clouds of the late thirties. It

did cause a lot of economic changes, some for the better and some for the worse.

The point of all this is that the impression left by the general press, numerous environmental groups, and many current government officials is that our air quality is getting worse and indeed the sky is falling. Actually, in almost all areas of the country, the air has never had it so good. But the other point is that the gains in air quality did come at a price - often a painful economic one. A price paid by individuals who went broke, or had to dramatically alter their way of doing business. Hard choices made by those with dubious legal standing to make them, forced on those who had to pay for it dearly in hard cash. But it worked then. And it works now.

One of the most despised bureaucracies in the Federal government is the Environmental Protection Agency. Environmental groups complain bitterly that the agency is doing nothing while our environment is being raped by corporate robber barons and we're all going to choke on radon and smog while CFCs and acid rain battle for the right to either sunburn or bleach the bloated bodies left behind - assuming global warming doesn't cook us first or the trees finally revolt and start chopping down people.

Industry complains bitterly that they are forced at gun point to pay exorbitant costs to clean up "problems" of dubious scientific merit. Millions of dollars down the drain to appease pop science and enviro-nuts. More governmental inspections and paperwork.

Caught in the middle of course is the Environmental Protection Agency or EPA. If they were doing their job perfectly, it is virtually guaranteed that no one on earth would be happy about it at the time. Then too, the task of measuring and estimating pollutants, their causes, and the effects has become a fairly rigorous technical discipline and if they WERE doing a perfect job, most of the population wouldn't have the expertise to know it. Unless the air gets

cleaner.... or at least stays clean....and nothing gets any worse.

So it's an inherently thankless job. Like any governmental agency, the EPA has a mission to promulgate information about its mission, regulations, and requirements. And we're pleased to note that many departments of the federal government have seized on the use of BBS technology to fill those outreach missions with a zeal we just never would have expected - none more so than the EPA.

The EPA's Office of Air Quality currently operates a 32-line TBBS bulletin board that according to program manager Jerry Mersch, will go to 64 lines as soon as eSoft Inc.'s Phil Becker completes writing the 2.2 upgrade to the software. The system is titled the **Office of Air Quality Planning and Standards Technology Transfer Network (OAQPSTTN)** and it's one of the best examples of a U.S. federal government agency using BBS technology to dramatically enhance their mission and save us a bundle in tax dollars in the process.

Probably the main use of the BBS is not quite visible to the public. Some 340 State and local air quality directors from around the country access the system to gain technical assistance, advice, and generally commiserate with their fellow bureaucrats about life as an air policeman and how best to accomplish their tasks.

The rest of the system is free and open to the public and according to Mersch, about 3000 people regularly access the system. The board is divided into a series of six sub-boards.

EMISSION MEASUREMENT TECHNICAL CENTER. This area of the EPA system provides technical guidance on stationary source emission testing issues. Basically how to count those pesky little pollutants as they leave the smokestack.

SUPPORT CENTER FOR REGULATORY AIR MODELS. Believe it or not, there are numerous software programs to model air

quality and the factors that affect it. This area provides such software for download and support/changes for these models.

CLEARINGHOUSE FOR INVENTORIES AND EMISSION FACTORS. Tools for estimating emissions of air pollutants and performing air emission inventories. Emission estimation databases, newsletters, and announcements. Essentially, how to count smokestacks, and estimate the amount of pollutants they spew forth.

AIR POLLUTION TRAINING INSTITUTE. The EPA provides a variety of training courses, both as traveling lecture/lab series and as self-study materials. This area provides class schedules and the availability of training materials.

CLEAN AIR ACT AMENDMENTS OF 1990. We're going to guess Congress amended the Clean Air Act sometime during 1990. This area describes the changes, what they mean, how to enforce or comply with them, etc.

In addition to state and local officials, it would seem there has been a mini-boom in the market for industry consultants to show companies how to comply with air quality regulations. The EPA system provides a marvelously efficient means of communicating with these people and providing them technical information largely unavailable at your local community college.

The system runs on a 33 MHz 80386 microcomputer with 4 MB of RAM and two 16-port Digiboard serial breakout cards. A total of 800 MB of hard disk storage holds the files. Twenty Hayes 2400 bps modems and two U.S. Robotics Dual Standard 9600 bps modems service callers while 10 hard wired ethernet lines allow staff to access the system. Day to day operations are handled by Hersch Rorex.

One of the most expensive inefficiencies of government is staffing enough people to deal with all the people the government, by definition, has to deal with. When all the games have been played, and all the DOS shell programs in the uni-

verse have been downloaded at least twice by everyone, the big discovery will be that BBS technology allows a scant handful of people to service a large number of customers/clients/subscribers/franchisees/colleagues/citizens/cult followers/fans/sales reps by automating the routine answers to the routine questions, documenting the lengthy answers to the technical questions, and making those answers available 24 hours a day to as many as care to call - all at a fraction of the cost of conventional service operations. Whatever your feelings about the Environmental Protection Agency, we can all breathe a little easier knowing they are online. Jerry Mersch, Program Manager, Environmental Protection Agency, Mail Drop 14, Research Triangle Park, NC 27711; (919)541-5742 BBS; (919)541-5384 voice

NOAA WEATHER SATELLITE PHOTOS ONLINE

Charles "Scotty" Olson is working in a bit of a dying industry. He builds engines at Macdonalds Racing in San Diego California. But for some twenty years his passion has been in HAM radio, satellites, and space technology. For the past four years, he's operated a Wildcat BBS titled **FAX/Satellite Network NOAA Weather and Science BBS** at (619)224-3853. It's a BBS like any other, with the possible exception that it has seven loop-YAGI antennas sprouting from the roof.

Within the past year, Olson has enlarged his investment in HF radio and satellite equipment to some \$40,000 and now grabs satellite images from four National Oceanic and Atmospheric Administration (NOAA) weather satellites (think Channel 7 satellite weather on TV), several Russian RSMET weather satellites, Japanese GMF satellites, UPI news photos, and whatever other HF screamers might pass overhead in the night. He not only can receive these fax-like satellite images on screen, but has become most adroit at converting them into images using CompuServe's Graphics Interchange Format or **GIF** (pronounced "jif"). **GIF** files are rapidly

becoming the bit-mapped graphics lingua franca for the online world and a score of excellent utilities are available to rotate, squeeze, format, convert, print, and otherwise disabuse images in this format into a variety of aberrations.

While most callers are more accustomed to seeing GIF images used to display ladies and the odd donkey in various poses of indiscretion, it also serves well as a vehicle for satellite and space images.

While Olson's system clearly revolves around satellite images, it also carries a variety of weather reports, and an impressive array of NASA reports on shuttle status and activity, Hubble Space Telescope developments, the Magellan Venus Orbitor, Galileo Probe, and other NASA reports.

While most governmental agencies involved with Satellite data have ports to the sats they use most, Olson's eclectic collection of radio hardware and imaging equipment provides a better mix of images from various sources than they typically get in their own labs. As a result, the majority of Olson's callers are from the Scripps Institute, NAS Miramar Naval Air Station, Jet Propulsion Laboratory, and NOAA. According to Olson, his latest caller is one Sally Ride, otherwise known for being the first female shuttle crew member.

The satellite images are frankly drop dead gorgeous in many cases. But the system does have a few faults. It sports two lines, one public and one private and the public line is limited to 2400 bps connections - a serious handicap when dealing with largish graphic files. More critically, Olson is not a people person and is not particularly fond of dealing with the public. New users can download a file titled **ALLFILES.ZIP** listing the files available and containing a few samples of NASA reports, weather information, and a couple of GIFs of satellite images. Further access requires mailed payment of \$25 for one year access - checks only. All of this is subject to his mood of the day and if he's "been having trouble with kids" about all you can do

is read an information file indicating where to send money to get access.

Despite the amateurish approach to running a BBS for profit, Olson's system is quite interesting technically and the GIF satellite images are both usable and attractive. FAX/Satellite Network, Charles "Scotty" Olson, 986 Turquoise St., San Diego, CA 92109; (619) 224-0859 voice.

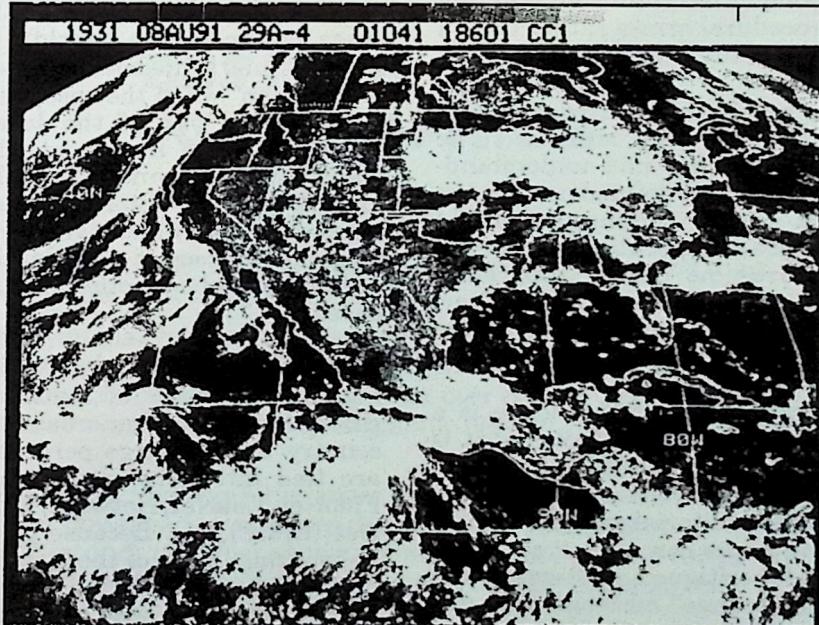
SAN DIEGO YACHTING BBS

One of the most encouraging things about the advance in desktop technology is the way it empowers individuals or very small groups to effectively publish in a professional fashion. It's not just photocopied newsletters or mimeographed sheets for the little guys and four color glossies for the conglomerates anymore. In fact, it would appear the large conglomerates are in desperate straits currently while the tiny specialty publishing business is thriving.

The result is an expanding richness in the variety of publications available - including the one you hold in your hand. The number of magazines has grown from 1456 in 1980 to some 2276 as of April 91. This is particularly notable since over half of all magazines fold within the first four years of publication. Over 250 new entries into the field appeared so far in 1991 and we've averaged over 500 new titles each year during the last decade.

The result of all this has been a rash of husband/wife teams operating tiny specialty print publications as well as the new publishing medium - bulletin boards. Channel 1 BBS, Rusty & Eddies, EXEC-PC, and of course our own Boardwatch Magazine are all run by couples.

One of the best combinations of magazine and BBS we've found is operated by a husband/wife team in San Diego California. Robert and Stacy Young publish a weekly magazine titled *San Diego Yachting News* catering to the waterfront crowd involved primarily in Yacht racing - anything from America Cup news down to row-



boat races in the pond. At \$50 per year, the publication has been enthusiastically received among the local yachting enthusiasts. In addition to race results, schedules and calendars, and news, the magazine includes a good bit of local gossip and interviews with skippers and their post-race recaps usually heard only over beers in local water side pubs.

The Youngs also operate a BBS titled **THE NORTHSTAR BBS** at (619)223-5136. The system runs on a MacPlus computer using FreeSoft's Second Sight BBS software. There's not a file or a game on it and it's delightfully non-technical.

The system actually carries two largely separate BBS. The **Port/Starboard BBS** revolves again around the yacht racing theme with many articles from their print publication reproduced online. We read a fascinating account of a Beer Can race that apparently got off to a bit of a poor start with various entries racing around a variety of courses other than the one slated for the race. We got the distinct impression that despite the title of the event, boats of the same class were supposed to race around the same length course and the confusion was due to procedural errors rather than a few too many cold ones.

Race results are posted online, a calendar of events, and more. The system is clear and understandable and fills a defined need in the yacht racing community. Yacht races are a bit peculiar in that once they over, no one is apparently quite sure who won. The Port/Starboard system posts race results in a timely fashion.

The other side of the house is a BBS titled **WriterLink** and it is pointedly for writers and specifically for new writers. The Youngs also offer editorial services and aspiring hacks can submit contributions for critique and discussion. A "coffee lounge" message area discusses the vagaries of the trade.

Writers, frankly, make good sysops. The menus, organization, and information files are all delightfully clear, lucid, and well organ-

ized. Good theme. Robert and Stacy Young, NorthStar Publishing, PO Box 6246, San Diego, CA 92166; (619)223-5136 data, (619)223-4785 voice, (619)223-5146 fax.

THIS MONTH'S FEATURED CITY - SAN DIEGO

SAN DIEGO BULLETIN BOARDS

By Marc Teitler and Bud Jamison

San Diego just might be a telecommunicator's dream. With a population of around 2.5 million people, there are approximately 300 bulletin boards in a recent verified BBS list, the majority of which, are both public and free!

San Diego is home of some ten military bases, many of which have multiple BBS's on-base. Many of the local sysops and users are members of the military as well. Many local boards "transferred" to San Diego along with the sysops, when the sysops were relocated to San Diego from other bases in the nation (world). Because of this, some boards do tend to go "down" when the sysop is on duty aboard one of the locally based ships, as happened when many Navy personnel were called to duty in Desert Storm. Some of these boards will be familiar to users in other areas of the nation, as they started near other military bases.

Locally, San Diego probably has a higher percentage of multi-node BBS's than most other areas in the country. Also, a large percentage are tied into networks, such as FidoNet, UseNet, Network, RelayNet (RIME), etc. Because of this networking, more of the local sysops and users in San Diego are connected in one way or another through local and nationwide mail echoes. The sysops who are net-worked tend to be more professional and responsive, as they are in-touch with many other sysops

and users. For example, some of San Diego's local echoes have grown to become State and Nationwide, with 10 to 100 or more messages per day. These include FidoNet GLOBAL_WARS, SD_TWARS, CHITA's PUB, etc. Chita's Pub has become one of the most popular local "General Topic" message echoes, with sysops and users participating in both light and serious discussions, some of which really get interesting. The founder of Chita's Pub, Chita Cazares, one of San Diego's more colorful characters online, claims she must limit the number of BBS's that carry the echo to keep message traffic levels manageable. This local echo carries as much traffic as most international echoes in today's largest networks!

LOCAL BOARDS

Locally, the free weekly print publication "**ComputorEdge**" operates an 8-line TBBS system at (619)573-1675 providing a verified BBS list for the area as well as a calendar of computer related events. ComputorEdge also prints the a local BBS list in it's weekly magazine. The list currently contains more than 300 BBS titles/numbers. The system sports one CompuCom 9600 bps line and seven 2400 bps lines.

Some of the local boards have huge file areas (**The General** 619-281-4185, **Local RIME Hub**), some have enormous numbers of local, national and international message areas, (**BallyHoo** 619-447-0514, **Chief's Mess** 619-469-1354, **Programmers WorkShop** 619-284-0799, **Pacific Rim** 619-278-7361). Many local "Chat" boards have large user bases as well (**S.D. Connection** 619-584-0470, **Rendezvous** 619-692-3622, **Hop** 619-284-0632). My system (**The General**) currently carries FidoNet, RelayNet (RIME), Network, KesherNet, and many local echoes. I intend to add UseNet as soon as I get the time. In San Diego, Connectivity seems to be a very popular principle.

As to FidoNet, San Diego's **NET202** has been recognized as one of the very best nets around the world. **NET202** has of course en-

joyed some growing pains, including a "spat" about charging for echomail. Fortunately, a local company named "South Bay Communications" decided to pick up the entire tab for the telephone costs, and a number of local sysops chipped in to picked up the tab for a dedicated "Mail Machine". Some of the nationwide Fido echoes report that 10% or more of their messages originate from NET202, and a number of echoes actually started here.

Many of the local boards run Wildcat!, Remote Access, TBBS, WWIV, QBBS, PCBoard, Searchlight, Telegard, and yes, even Opus! One of the local chat/matchmaking systems, "LOLA", was written by a local author/developer named Jim Dixon. Jim also built the multi-line hardware used by LOLA, which was also known as LISA, with 8+ line boards in Southern and Northern California. In addition, Jim designed and built "Gertrude and Gretchen", multi-line voice chat, voice mail box and voice BBS systems, with digital audio, analog and T-1 interface. The latest de-

sign, Gretchen, resides on a "Monster" of a AT&T Unix system, with over 32 lines. All of Jim's BBS's and Voice systems have always been, and always will be, totally free!

Some of the largest collections of IBM Related files reside on **The General** (619-281-4185), **Mushin** (619-222-3097), **S.D. KnowWare** (619-223-5593), **DJM** (619-588-6941), **Pacific Rim** (619-278-7361, Our FidoNet NC, Brenda Donovan's board), **Classified Connection** (619-566-1745), **Bullet Proof** (619-284-6729), **Ballyhoo** (619-447-1008), **Lakeside Wildcat** (619-443-4089), **Tunnels of Vesarius** (619-453-1781), and others.

Some of the more interesting local titles include: **UN*x Lips Service** (619-693-0735), **Captain Ahab's Fish And Chips** (619-447-45090), **Buster Bunny's Hole** (449-7838), **Scholastic Asylum** (619-748-5938), **Electro-shok Therapy** (619-723-3065), **Casa de Cricket** (619-571-7791), **The Dead Zone** (619-755-3350), **Elephant's Graveyard node #9** (619-270-

3148), **SpamDiego** (619-4520-2846), **Rigor Mortis** (619-436-0407), and **Rasta Think Tank** (619-483-6463).

I can say that I am quite happy to be in Sunny San Diego. As a sysop here, I can tell you that the local users and sysops make this one of the best towns to modem in!

[*Marc Teitler and Bud Jamison operate one of San Diego's most popular BBS, THE GENERAL at (619)281-4185 using Wildcat! BBS software. The General also serves as a product support BBS for CompuCom's SpeedModem - Editor]*

SAN DIEGO STATISTICS

San Diego is listed in U.S. Department of Commerce Metropolitan Statistical Area census data as sporting 2,313,900 warm bodies as of December 31, 1987 with slightly over 2.5 million estimated currently. Our list of San Diego BBS was derived, with permission, from two lists. One was graciously provided by *The ComputerEdge*,



BBS REAL TIME VGA GRAPHICS!

BAD NEWS AND GOOD NEWS: The Bad: if your BBS is depending on GIFS now, you might be toast. The Good: you can toast the competition with color VGA file sizes of 5K-10KI

IF YOU WERE AT FIDOCON this August you may have seen us download a color VGA image in 4 to 7 SECONDS. As a BBS professional, we don't have to hype you on what this means: a new phenomenon is upon us, one we might have expected with fibre optics and ISDN, but not over ordinary phone lines. Fractal image compression, not JPEG data compression is the key to graphic files small enough for real time interaction with your users.

HOW IT'S DONE: The system uses a proprietary, full length hardware compression board for the ISA bus, with an i960 processor on board. Your user downloads a software decompression utility, and (using V32bis) will see the image within 7 seconds (10K file). Optimal images about 20K. The full length board costs \$8850 (\$7965 for Sysops) and the fee is \$2 per paid user. Leasing may be available for about \$330 per month.

You can also do grey scale and full-motion video over phone lines with this card. Gentlemen, start your toasters.

Call CARDZ BBS at (604) 734-5400 (HST) (604) 734-5901 (2400B), or voice at 800-732-8400



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FAX: (604) 732-8412

a weekly free magazine serving the San Diego computer community, and the second was contributed by Stan Hallett of THE BBS CONNECTION. Hallett had maintained a San Diego list for a number of years, but disconnected his BBS on Monday, August 4th to move to a new home and job in Maine. The resulting composite listing contains 299 entries. This results in a population per BBS ration of 7739 in San Diego and if the San Diego statistics held nationwide, would indicate a total BBS population of 32303 BBS across the country. In this respect, San Diego would appear to be almost precisely in line with our national norms we published in our August issue. Using the population ratio technique, we had reported 31,708 BBS nationwide based on six cities. The accompanying table shows the results with San Diego included in that list.

As to BBS software, it's a WWIV kind of town apparently with 43 systems using that software. Wildcat! is a very close second with 39 systems and PCBoard comes in a distant third with 24 systems total. The market breaks down as follows:

SAN DIEGO BBS SOFTWARE

WWIV	43	14.33%
Wildcat!	39	13.00%
PCBoard	24	8.00%
QuickBBS	10	3.33%
Remote Access	8	2.66%
Searchlight	8	2.66%
Teleguard	8	2.66%
Image	8	2.66%
proline	8	2.66%
TBBS	5	1.66%
Opus	5	1.66%
Spitfire	5	1.66%
EBBS	5	1.66%
RBBS-PC	4	1.33%
All Other	119	

With regards to Modem speeds, nearly a third of the systems in the area support 9600 bps or greater. Of these, US Robotics again comprises the vast majority with 77 of 98 high-speed systems (78.5%) sporting that model. CompuCom, a recent entry with a low cost non-standard 9600 in 1991 has done

BULLETIN BOARD DENSITIES IN SELECTED CITIES

City	Population	BBS	Fido	Percent	Pop/BBS
Atlanta	2,662,800	245	76	31.02%	10868
Chicago	6,177,300	527	50	9.49%	11722
Denver	1,895,300	410	144	35.12%	4623
Houston	2,736,400	377	63	16.71%	7258
Portland	1,386,000	176	70	39.77%	7875
San Diego	2,313,900	299	113	37.79%	7739
Washington D.C.	3,624,980	608	153	25.16%	5962

By FidoNet Ratio: 26227 in North America

Population Per BBS 7813

By Population Ratio: 31,996

Average of two methods: 29,111 BBS

surprisingly well quite quickly with 13 systems supporting the modem.

SEATTLE MODEMS

1200	16	5.3%
2400	184	61.33%
9600+	98	32.66%

STOCK OF THE WEEK

ONLINE BROKERAGE COMPETITIVE RATES

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CHRIS STREETER
SYSTEMS OPERATOR

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FIDONET NODE: 1:271/260
COMPUSERVE ID: 70673, 527

SAN DIEGO CALIFORNIA

AREA CODE 619 LIST OF ELECTRONIC BULLETIN BOARDS

Title	Phone	Software	Speed	Title	Phone	Software	Speed
\$ound of Money	461-3415	JBBS.....	14.4 HST	Christ, She's At It Again!!.....	264-8412	.....	2400
32 45'40"N - 116 54'45"W.....	444-8438	Remote Acc		Circle B BBS, The.....	448-2496	WWIV	2400
ABBA II.....	487-7746	Wildcat!.....		Classified Connection.....	566-0328	Wildcat! ....Comp	
ABC BBS	436-3525	Wildcat!.....		Cleric's Keep, The	723-8025	.....	2400
About Town BBS.....	542-0906	QuickBBS ..	9600 HST	Club Med	271-8666	Image	2400
Academy, The	575-7680	WWIV	2400	CMS:Lakeside	390-2689	CMS	300/1200
Adventure Games of Am.....	695-3011	Phoenix.....	Dual STD	Coco Exchange	272-3643	Coconet.....	2400
Adventures In Palancia.....	222-1785	Opus	2400	Coconet Demo BBS	456-0815	Coconet.....	2400
Afterburner BBS, The.....	724-0420	Teleguard..	14.4 HST	COM2: Remote BBS	471-8730	Wildcat! ....Dual STD	
Alderon.....	697-9822	.....	2400	Commodore Connection	429-6227	American....	2400
Amber Knights	460-9762	.. pro-	2400	Commodore Diskover.....	437-1189	Image	2400
Amiga Beach BBS	439-8407	Skyline	2400	Commodore Edition.....	463-1355	Image	2400
Amiga-Nonymous	477-2368	.....	2400	Commodore Image.....	429-8192	Image	2400
Anarchist's Alliance.....	792-9937	WWIV	2400	Communication Link.....	726-7834	.....	2400
Angel's Starship.....	460-6003	.....	2400	Computer Outlet, N County	740-0113	Michtron	2400
Anime Online	272-8752	PCBoard ...	2400	Computer Room, The	287-6006	Wildcat!	2400
Aquarium BBS	462-1732	PCBoard ...	9600 HST	ComputorEdge On-Line	573-1675	TBBS	2400
ArtWorld BBS.....	462-6887	.....	2400	ComTech BBS	689-1865	PCBoard....	9600 HST
Ashley's BBS	565-2029	WWIV	2400	Constitution, The	430-2738	WWIV	2400
Atari/Amiga	691-7862	.....	2400	Control Central	432-0051	.....	Dual STD
Ballyhoo BBS.....	447-1008	PCBoard ...	Comp	Corner Store, The	423-2327	Wildcat!	2400
Bauhaus.....	670-3969	Opus	Dual STD	Cornucopia	692-4269	Opus	9600 HST
BBS Court, The.....	582-8411	B-PC	2400	Cougar Country	480-3056	C-64.....	300/1200
Bell CMS.....	267-2807	CMS.....	300/1200	Covey's Concepts.....	439-5131	WWIV	2400
Beyond Control	545-7615	WWIV	2400	Cpt. Ahab's Fish 'n' Chips.....	447-4509	WWIV	2400
Bicycle BBS, The	720-1830	Spitfire	2400	Cuyamaca College	660-2010	Wildcat!	300/1200
Big Blue Connection	225-9720	WWIV	Dual STD	Cygnus X-1 BBS	457-2665	.....	14.4 HST
Bitter Edge, The	447-5265	Maxihost...	2400	Data Trax	433-8564	PCBoard....	9600 HST
Black Box, The.....	747-2304	WWIV	2400	Dave's Place.....	562-3248	JBBS	9600 HST
BNB Engineering	457-0419	Image.....	2400	Dead Zone BBS/PDSE,.....	755-3350	WWIV	V.32
Bogeda Bay	390-7896	.....	2400	Desert Bytes	443-9203	Wildcat!	14.4 HST
Bootcamp I.....	941-0996	PCBoard...	9600 HST	Dew Drop Inn.....	689-1334	Wildcat!	2400
Bosn Locker	442-9252	RA.....	14.4 HST	Digex:SDCS DIGSIG.....	454-8078	Micro BBS .	300/1200
Brian Smith's BBS.....	582-0875	WWIV	2400	Diplomat BBS, The	583-4729	PCBoard....	2400
Buck's Place BBS	561-3138	Wildcat!....	2400	DJM BBS	588-6941	Wildcat!	9600 HST
Bullet Proof Software	284-6729	Wildcat!....	14.4 HST	Dollars and Bytes	483-5477	Maxihost....	9600 HST
Bullseye BBS, The.....	479-6009	.....	2400	Don's House	560-0613	QuickBBS..	14.4 HST
Buster Bunny's Hole	449-7838	.....	300/1200	DOOGER'S PLACE	588-8931	PCBoard....	9600 HST
Byte Box, The	277-4618	Coconet....	2400	Dragon's Condo, The	672-1322	WWIV	2400
Byte's Realm BBS	584-8228	RA.....	2400	Dragon's Domain BBS	565-4424	WWIV	2400
Cajon Zone BBS	447-4095	RA.....	Dual STD	Dragon's Nest BBS.....	449-7052	WWIV	2400
California Dream.....	453-6918	WWIV	2400	Dream!, The.....	695-3515	WWIV	2400
Camelot 3000.....	462-0542	PCBoard ...	9600 HST	Eight-Bit Tandy	571-6366	.....	2400
Casa de Cricket	571-7791	.....	2400	Electro-shok Therapy	723-3065	Searchlight	2400
Cat's Lair, The.....	450-1553	WWIV	2400	Electronic Farm, The.....	440-0899	.....	Comp
Catholic Information Net	283-0889	.....	9600 HST	Elephant's Graveyard	270-3148	.....	Dual STD
Celtic Frost.....	469-9406	UBBS.....	14.4 HST	Employment Board, The.....	689-1348	Spitfire	Comp
Chief's Mess, The	469-1354	QuickBBS ..	9600 HST	Enigma	453-1819	WWIV	2400
Christ Line.....	268-3568	Wildcat!....	2400				

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AREA CODE 619 LIST OF ELECTRONIC BULLETIN BOARDS

Title	Phone	Software	Speed	Title	Phone	Software	Speed
Especially Yours.....	462-4394.....		300/1200	L.V. Wanderer.....	560-8203 ..	Image	300/1200
Falcon's BBS.....	726-8001 ..	WWIV.....	2400	Lake Murray's Support	460-2292 ..	EBBS.....	2400
Fallen Apple, The	541-0335.....		V.32	Lakeside Wildcat!	443-4089 ..	Wildcat!.....	Dual STD
Family Historian, The	279-5746.....		2400	Landing Strip, The	672-0846		14.4 HST
Family Historians.....	279-5746.....		2400	Laser*Point	466-8026 ..	HO44	2400
Fanatic BBS, The	549-0447.....		2400	Laughing Academy!, The....	562-6337		2400
Farstar	225-1775 ..	WWIV.....	2400	LCR BBS	425-5831 ..	Wildcat!.....	14.4 HST
Fax/Satellite System	224-3853 ..	Wildcat! ..	ATI Fast	Leather Mistress BBS.....	527-4005 ..	Wildcat!.....	2400
File Bank, The	728-4318 ..	PCBoard ..	9600 HST	Light Impressions.....	538-9131 ..	WWIV	2400
File Cabinet, The	426-7760.....		14.4 HST	Listening Post BBS	298-5613		2400
Final Experience, The	670-4445 ..	PCBoard ..	9600 HST	Lost Byte	273-0514 ..	RA	Dual STD
Final Frontier, The	966-0114 ..	Apple.....	9600 HST	Luigi's BBS	689-0164 ..	Teleguard..	2400
FireLand BBS.....	232-8203 ..	AFTR.....	2400	Mac In Touch	757-9851 ..	TFDR.....	2400
Foy's Trading Post	562-3646 ..	QuickBBS..	2400	Mac Underground Safehse.	272-2059 ..	Mac BBS ..	2400
Fun House, The.....	697-8714 ..	WWIV	2400	MacNerds	758-1105.....		2400
G.T. Connection, The	263-0347 ..	Wildcat! ..	2400	Mainstreet Data	439-6624 ..	SFIR	2400
Galactic Scholars	579-0430 ..	RA	2400	Marine Advisor BBS.....	224-0004 ..	Major BBS	2400
Game Board, The.....	281-0675 ..	TBBS.....	2400	MBC Broadcast.....	422-0239 ..	PCBoard...	2400
Gandalf's	466-9505 ..	QuickBBS..	14.4 HST	MegaBoard	560-0055 ..	WWIV	2400
Gangs of Vista, The.....	758-5920 ..	WWIV	14.4 HST	Metropolis USA, The.....	482-3169		9600 HST
General, The	281-4185 ..	Wildcat! ..	Comp	Micro Marketplace	484-0665		2400
Genesis	292-0502 ..	Oracomm ..	2400	MicroMiga	670-1095 ..	BBS-PC ..	2400
Ginko BBS, The.....	566-4165 ..	WWIV	2400	Milliway's.....	268-9614 ..	Phoenix	2400
Graffiti Wall BBS.....	721-7313 ..	WWIV	Dual STD	Molakai Express	462-6319		300/1200
Graffiti Wall BBS, The	721-7313 ..	WWIV	2400	Monastery	565-7747 ..	Image	2400
Green Giant, The	738-2084 ..	Teleguard ..	2400	Monastery, The	565-7747 ..	Image	2400
Guardians Cavern	563-9004 ..	PBBS	2400	Money Works BBS	679-5074 ..	Wildcat!.....	2400
H.M.S.S. New Beginning.....	745-0506 ..	WWIV	2400	Morning Star	575-3310 ..	Opus.....	14.4 HST
Hale Telecommunications	660-6734 ..	Waffle	2400	Mount Olympous.....	465-8236 ..	WWIV	300/1200
Heart-On San Diego BBS ...	521-9999		2400	Mousetrap.....	464-2134 ..	BBS-PC....	14.4 HST
Hero Network, The	281-1252 ..	TAG	2400	Multitech PC	578-9221 ..	Phoenix	2400
Hide Out BBS, The.....	747-3967 ..	Spitfire.....	9600 HST	Mushin BBS	535-9580 ..	PCBoard...	9600 HST
High Country East.....	789-4391 ..	Wildcat! ..	Dual STD	My House.....	447-1422 ..	PCBoard ..	2400
Hillcrest Community BBS....	291-0544 ..	Wildcat! ..	14.4 HST	My Station, Host BBS	282-5916		2400
Hog Heaven	561-0058 ..	Wildcat! ..	9600 HST	Nassau Xpress	433-9777 ..	WWIV	2400
HopScotch PH.....	284-0632		300/1200	National Amiga Network	282-6215		2400
I.D.I.C.	461-0982 ..	PCBoard ..	14.4 HST	Nearly Normal.....	222-7378 ..	WWIV	2400
Ice Lair, The.....	674-4307		2400	New-Ware	455-5226		2400
IEEE (San Diego)	452-3131 ..	Fido	Dual STD	No Name Yet!! BBS	470-7466 ..	WWIV	2400
Inve\$tment Club BB\$	476-0692	Comp		Nola's Nemesis.....	461-1336	Comp	
Jim's Gaming BBS	467-9242 ..	QuickBBS..	2400	Ocean Beach BBS.....	224-4878 ..	RBBS.....	300/1200
Jimlen BBS.....	462-2686 ..	Srchlight....	Dual STD	Ocean Sports.....	295-7660 ..	Wildcat!.....	Comp
Katatania Tales.....	420-4120 ..	TAG	2400	OFF the EDGE of WORLD.	223-1997 ..	RA	2400
KEFCS BBS.....	482-2441 ..	Maxihost....	2400	Official Fox Support Board .	421-7807 ..	Spitfire	2400
Kirk's BBS Express	583-7901 ..	Srchlight....	2400	OMNIBUS BBS.....	464-6271 ..	EBBS.....	V.32
Kit's Hideout	741-0692 ..	EBBS	300/1200	Orcus's Den BBS.....	268-4498		2400
Knight Shadows' Grotto.....	792-0455 ..	WWIV	2400	Osbome-CPM User Group.	299-1604		300/1200
Knowledge Works BBS.....	528-1058 ..	RBBS	2400	P-Net (pnet01)	444-7006		2400
L.O.L.A.	582-6969 ..	Lambda.....	300/1200	Pacific Beach BBS.....	275-1448		2400

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Title	Phone	Software	Speed	Title	Phone	Software	Speed
Pacific On-Line BBS, The....	435-5513	Wildcat!	2400	Seduction's Sanctuary.....	448-2256	WWIV	2400
Paulette's Playhouse.....	484-2690	WWIV	2400	Serenity	259-7757	.....	2400
PD Palace, The	467-0984	Teleguard ..	2400	Sexy's Sanctuary.....	440-4386	.....	2400
PD-SIG	749-2741	TBBS.....	9600 HST	Sharky's MACHINE.....	747-8719	.Mac BBS ..	2400
PI-COMMunications	578-5458	.....Comp		SHC Editor's BBS.....	563-1598	.....	2400
Place BBS, The	479-5244	WWIV	2400	Shenk's Express.....	697-8873	..Teleguard ..	2400
Plain Brown Wrapper.....	294-6592	DLX	2400	Sierra Club BBS	299-4018	..Srchlight ..	2400
pro-ACSD (Apple Corp	697-4515	proline.....	2400	Silver Circuit	480-0146	..Srchlight ..	Dual STD
pro-avalon.....	299-1449	proline.....	2400	Silver Strand BBS.....	424-9085	.....	14.4 HST
pro-beagle.....	558-6151	proline.....	2400	Silver's Cave.....	561-7206	.....	2400
pro-grouch	260-0492	proline.....	9600 HST	So Cal Graphics BBS	292-0186	..Wildcat!	2400
pro-nbs Brumby Way Net	571-0152	proline.....	V.32	Software Corner, The	588-6238	..Wildcat!	2400
pro-nsdapple.....	571-9010	proline.....	V.32	Software Network, The	486-1201	.....	2400
pro-sol.....	670-5379	proline.....	9600 HST	Software Revenge.....	431-4444	..Hermes.....	14.4 HST
Procrastinator BBS	270-4282	QuickBBS ..	9600 HST	SpamDiego.....	452-2846	.....	2400
Programmers Workshop.....	284-0799	.....Comp		SpecialFX	438-9105	..Teleguard ..	V.32
R-n-S Info Foneline	268-0964	RBBS.....	2400	ST-SDACE.....	689-8157	.....	2400
Racers Edge, The.....	426-4651	..Teleguard ..	Comp	Star Base 23.....	560-2996	..PCBoard....	9600 HST
RADIO-Active BBS	268-9625	WWIV	2400	Starhelm Graystaff.....	479-3006	..Opus.....	9600 HST
RadioSport BBS	279-3921	..Wildcat!	9600 HST	Streets of Bakersfield	294-5888	.....	2400
Rasta Think Tank, The.....	483-6463	PCBoard....	14.4 HST	Super MAC Apple BBS.....	482-9606	..Hermes.....	14.4 HST
Real Estate BBS, The.....	464-4540	PCBoard....	2400	SuperByte!.....	449-7940	..EBBS.....	2400
Realm of BALANCE, The	223-1324	WWIV	2400	Surf Shack, The.....	967-6017	..C-64.....	300/1200
Rendezvous BBS	692-3622	TBBS.....	2400	SW/SE Connection.....	467-0335	..RA	9600 HST
Revelation.....	474-5847	..EBBS.....	2400	Sys-Jam Productions	432-9057	..BBS-PC....	2400
RigorMortis BBS	436-0407	.....	2400	Tandy PC UG BBS	280-7528	.....	2400
Rocky Mountain High	471-2042	WWIV	2400	Tech Pro BBS	755-7357	..Wildcat!	Dual STD
Rogues' Gallery	449-9265	.....	2400	Technical BBS, The	282-0857	.....	2400
RPC Library, The	461-6642	..Wildcat!	2400	TeleMac	576-1820	..Red Ryder.	Dual STD
Rudy's Place BBS	670-3040	..Srchlight ..	2400	Telesys.....	483-3890	..Telesys	9600 HST
Rulaford Research MIDI	662-2428	..Wildcat!	2400	The 24 Hour Shopper	282-0857	.....	2400
S.D. CLIP*BOARD	286-7477	..PCBoard....	2400	The 64 & More Store	258-0951	.....	2400
S.D. Computer Society	549-3788	TBBS.....	2400	Third Angel BBS	299-4896	.....	2400
S.D. Connection BBS	584-0470	DLX	9600 HST	Trader's World	284-8729	..RBBS	9600 HST
S.I.G.H. Amiga	788-0449	Skyline.....	2400	Trantor BBS.....	280-4519	..QuickBBS ..	2400
Sabaline.....	692-1961	PCBoard....	9600 HST	Treehouse, The	424-6375	..Srchlight ..	2400
Salem's Lot.....	726-0369	..Teleguard ..	2400	Tunnels of Vesarius	587-9825	..QuickBBS ..	14.4 HST
S.D. NeXT User's Group	456-2522	Coconet.....	2400	UN*x Lips Service BBS	693-0735	.....	Dual STD
San Diego Recovery BBS	299-0609	PCBoard....	2400	Under-Ware BBS, The	297-5914	..Wildcat!	2400
San Diego Yachting News	223-5136	2nd Sight	2400	USS Enterprise	497-0541	..Wildcat!	9600 HST
S.D.'s KnowWare BBS	223-7111	..PCBoard....	2400	USS Perpetrators	561-4681	.....	2400
SanDOS	225-8173	QuickBBS ..	2400	VOID! BBS, The	455-5957	..WWIV	2400
Santee Micro, The	562-8735	..Wildcat!.....	Comp	Wall of Denial, The	431-7231	.....	2400
Sawyer College of Business BB.....	286-8614	PCBoard.....		Wave of the Future, The	390-7217	..Searchlight ..	2400
ScanLine Remote BBS	578-1462	PCBoard....	9600 HST	Wee Cabin, The.....	285-1639	..Wildcat!	14.4 HST
SCCG:99BBS	278-8155	TIBBS.....	2400	West Coast University BBS	695-1098	.....	2400
Scholastic Asylum	748-5938	.....	2400	Wild Card	565-0113	..Wildcat!	14.4 HST
Scribbles	484-2690	WWIV	2400	Windows Shoppe, The	527-4363	..Wildcat!	2400
Scripps Ranch	586-0703	..Wildcat!.....	2400	WriterLink	223-5136	..Second Sight	
SDPUG Board	632-0026	WWIV	Dual STD	Xanadu	287-2044	..Oracomm ..	2400
Seaside Connection, The	481-6479	..Wildcat!.....	2400	Yellow Jersey, The	486-1524	..Spittfire.....	Comp

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BOARDWATCH LIST OF BBS LIST KEEPERS

BBS LIST TOPIC	LIST AUTHOR/EDITOR	CONTACT BBS	TELEPHONE
Republic of South Africa.....	Henk Wolsink.....	Catalyst BBS.....	(041)34-1122
Darwin National BBS List.....	Meade Frierson	USBBS Update Line	(202)547-3037
BBS With Handicapped Focus.....	Bill McGarry	Handicap News BBS	(203)337-1607
Seattle AC 206/West Washington	Bob Dinse/Nanook	Eskimo North	(206)367-3837
Autocad Related BBS	Jason Osgood	Alacrity BBS	(206)643-5477
Maine BBS	Eric Rodzen	MaineNET BBS.....	(207)767-1273
Astronomy/Space BBS.....	John Pickens	Starbase III BBS	(209)432-2487
NY/NJ/CT/PA/DE.....		Network One BBS.....	(212)628-5486
Graphical User Interface BBS	David Shapiro	The Gooey (GUI) BBS	(212)876-5885
Southern California.....	Mike Hefferman	SOCAL Comer	(213)422-7942
Dallas/Ft Worth Area 214/817	Mark Robbins	Second Sanctum.....	(817)784-1178
Open Access UNIX Sites		LGNP1 (login:GUEST).....	(215)348-9727
Area Code 609 - New Jersey.....	Ron Brandt	Satalink BBS	(215)364-3324
Area Code 215 - Philadelphia	Ron Brandt	Satalink BBS	(215)364-3324
Cleveland Area 216	Eric Rickin.....	Wine Cellar	(216)382-2558
Handicapped Issues BBS	Richard Barth.....	HEX BBS	(301)593-7357
Baltimore Area 301	Phillip Bailey	Baltimore BBS News	(301)633-7870
Medical Issues BBS	Edward Del Grossio	Black Bag.....	(302)731-1998
Detroit Area 313	Horst Mann	Tony's Corner	(313)754-1131
Engineering Related BBS	Arthur Petzelka.....	Computer Plumber.....	(319)337-6723
Rhode Island Area 401.....	Mike Labbe	Eagle's Nest	(401)732-5292
Atlanta Area 404.....	Online Atlanta Society	OASIS	(404)627-2662
Atlanta Area 404.....	Rodney Aloia	INDEX System	(404)924-8472
South Florida Area 305/407	Eric Thav	Silicon Beach BBS	(407)276-3750
Milwaukee Area 414.....	Jim Belot	The Keep BBS	(414)372-3488
Arkansas Area 501	Bob Underdown.....	The Gaslight BBS	(501)444-8420
Portland Oregon BBS.....	Lisa Gronke	DawGone Disgusted	(503)297-9145
New Mexico Area 505	Frank Lerner	Land of Enchantment	(505)822-8162
Selected BBS	Joseph Caplinger & Son.....	J&J's BBS	(513)236-1229
The List National BBS List	James Toro	PDSLO (The List)	(516)938-6722
Area Code 517 - Mid-Michigan	Rick Rosinski/SAMM	Wolverine BBS	(517)695-9952
Wisconsin 608		JW-PC Dataflex.HST	(608)837-1923
South Jersey Area 609.....	Dave Schubert.....	The Casino EBBS	(609)561-3377
New Jersey Area 201/609/908.....	Wayne R. Morton	Praedo BBS	(609)953-0769
MIDI Music BBS	Lee Smith	MIDImaze BBS	(615)877-5528
Massachusetts Area 508/617	Dave Goodenough	Wyzard's Castle	(617)825-3135
San Diego, CA AC 619	Ron Dipold	Computor's Edge	(619)573-1675
Apple II BBS with Internet con	Morgan Davis	pro-sol	(619)670-5379
OS/2 BBS Systems	Pete Norloff	OS2/Shareware BBS	(703)385-4325
Washington DC BBS List	Mike Focke	Interconnect	(703)425-2505
Geneology Related BBS	Richard A. Pence	NGS-CIG	(703)528-2612
Desktop Publishing BBS	Frank Atlee	Byrds Nest	(703)671-8923
Ontario Area 705	Alex Draper	Cottage Country BBS	(705)835-6192
Amiga BBS Lists.....	Captain Chet Solace	Exactus Info Service	(707)524-2548
Chicago	Colby Jordan/Peter Anvin.....	Stillwaters.....	(708)403-2826
Chicago	David Nathan	HURK BBS	(708)801-0823
Houston Area 713.....	Ron Crowther	Houston Inline	(713)522-2408
Central California Area 805	Larry Honore	Hls Board	(805)652-1478
Kansas City Area 816/913.....	Roy Timberman	Sound Advice	(816)436-4516
Tulsa Oklahoman Area BBS List.....	Linda Hargraves	Access America	(918)747-2542
U.S.S.R. BBS List.....	Serge Terekhov	Court Crimson King.....	7-3832-356722

BOARDWATCH MAGAZINE

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Singles Chat BBS (201)791-8850
Saddle Brook, New Jersey since 04/17.
Sysop: Ron Meier. Using Galacticomm
with 8 lines on MS-DOS 8088 with MB
storage. Hayes at 2400 bps. \$17.00
Monthly fee. Chat BBS 16 lines in
Teleconference (Linked 24 hours with
Chat Shack) Horoscopes Registry of
users with personal Info Favorite
Movie,Foods,TV Show, Hobbies Etc.

Bruce's Bar & Grill (203)236-3761
West Hartford, Connecticut since
08/83. Sysop: Bruce Lomasky. Using
TBBS 2.1M with 24 lines on MS-DOS
80386 with 300 MB storage. U.S.
Robotics at 14400 bps. No fee. Bruce's
Bar and Grill has a similar atmosphere
to TV's "Cheers". Public, Private, and
Over 21 Conference Sections. Many
regulars stop by and chat each day.
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real time) and thousands of IBM files.
Hayes/Telebit/USR 9600

HH Info-Net (203)738-0342 New
Hartford, Connecticut since 01/86.
Sysop: Lee Winsor. Using PCBoard
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1600 MB storage. U.S. Robotics at
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Jordan. Using Custom written 1.0 with 4
lines on Custom built mini with 800 MB
storage. Hayes at 2400 bps. No fee.
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database system. Place electronic
resumes on the system which
professional recruiters from all over the
world search to get you the best paying
career. Also a free international social
register database just started.

Pinecliffe BBS (303)642-7463
Pinecliffe, Colorado since 01/84. Sysop:
Craig Baker. Using Ultrabbs 2.02 with 6
lines on MS-DOS 80386 with 2200 MB
storage. U.S. Robotics at 2400 bps. No
fee. FREE BBS! (But for \$20/yr get TWO
HOURS PER DAY & NO DOWNLOAD
LIMIT!) Lots of files, some oddball
echomail conferences. Many online
games & tournament! Sysop usually
available for chat. 9600 bd HST line at
(303)642-0703. Come help us grow!

Sound Doctrine BBS (303)680-7209
Aurora, Colorado since 01/87. Sysop:
Tim and Mike. Using TBBS 2.1M with 4
lines on MS-DOS 80286 with 200 MB
storage. Supra at 2400 bps. No fee. For
serious Christianity only! Where
non-believers can ask the questions
their Christian friends wish they
wouldn't. Free items can be ordered
while on-line. Look for the women's
echo called Adam's Rib and our
international echos. Find out who equals
666

Chicago SysLink (312)622-4442
Chicago, IL. since 06/81. Sysop:
George Matyaszek. Using TBBS 2.2
with 11 lines on MS-DOS 80386 with
130 MB storage. Multitech at 2400 bps.
\$20 Annually fee. Voted as #1 BBS in IL.
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Chicago Syslink now features
multi-line chat, 25+ online games, Ferret
Forum, Bell Business Report and much
more. Call today using Connect USA
long distance network or direct and have
some FUN!

Data Point! (501)442-8777 Fayetteville,
Arkansas since 01/83. Sysop: Gary W
Funk. Using TBBS 2.2M with 4 lines on
MS-DOS 80286 with 260 MB storage.
U.S. Robotics at 2400 bps. \$30 Annually
fee. Data Point! has multi-line chatting,
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TDN files. Support for MS-DOS and
Windows 3.0. TBBS/TDBS/TIMS and
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UUCP message areas.

Cul-de-Sac Bar & Grill (508)429-1784
Holliston, Massachusetts since 03/85.
Sysop: Pete White. Using TBBS 2.1M
with 5 lines on MS-DOS 80286 with 380
MB storage. U.S. Robotics at 14400
bps. \$45 Hourly fee. The home of many
TBBS/TDBS software packages, and an
almost continuous beta site for many
TBBS/TDBS software authors. Like
Ben Cunningham's 10,000 message
system with full screen editing and
quoting, and Jeff Johnsons On-Line
Sales Manager.

CONNECT AMERICA (512)459-3351
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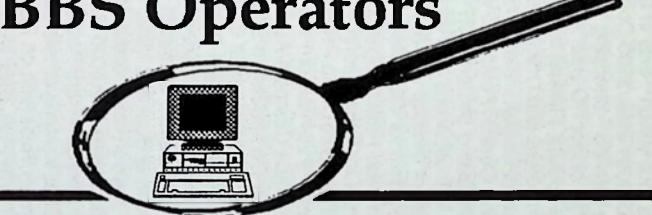
The P.D.S.L.O. Network
(516)938-6722 Hicksville, New York
since 08/86. Sysop: James Toro. Using
TBBS 2.1M with 18 lines on MS-DOS
80486 with 3400 MB storage. UDS at
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charges. FREE automatic dial-in
software. Modem 518-562-9452.

THE PROMISED LAND (715)387-1339
Marshfield, WI since 01/90. Sysop: Tim Brown. Using Custom Major BBS with 16 lines on MS-DOS 80386 with 2500 MB storage. U.S. Robotics at 9600 bps. \$hrly .60-.95 fee. 11,000+ files for WINDOWS, IBM, AMIGA, APPLE, MAC, ATARI, & C64. Active Windows Users Conference/ Group. Live Teleconferences, Private E-mail, Online Multiplayer Games, Regional/ National Conferences. 2HR FREE DEMOPAK (say you saw it in BoardWatch!)

The Passport System BBS
(816)229-1841 Kansas City, Missouri since 08/84. Sysop: Gary Wood. Using PCBoard 14.5 with 6 lines on MS-DOS 80386 with 2200 MB storage. V.32 at 9600 bps. \$59 Annually fee. USA News, InfoMat News, Weekly Magazines, MetroNet Echo Mail, Single/Multi player games, free files for new callers, 26,000+ files, CARRS CD-ROM, Adult Section, 1 Hr/1MB download daily, no uploads req, Online or Mail-in Registration, and much more!

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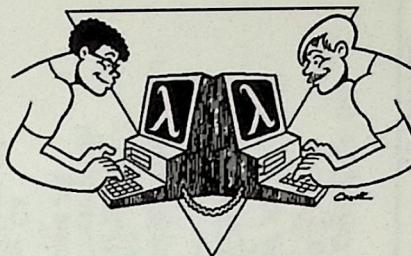
If you or someone you know, had a bulletin board seized on May 7, 8, or 9th of 1990 by policemen or federal agents. I'm very interested in talking to you regarding a book I am writing on electronic civil liberties issues: THE HACKER CRACKDOWN, The True Story of the Digital Dragnet of 1990 and the start of the Electronic Frontier Foundation.

Also, if you are a policeman, prosecutor, telco security, federal agent or informant and you or someone you know was seizing computers on May 8th 1990. I am very interested indeed in your story.

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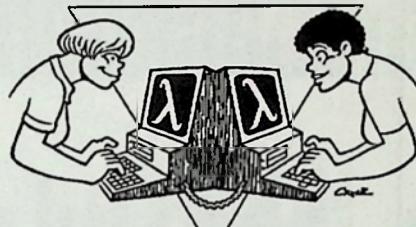
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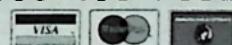
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BOARDWATCH MAGAZINE

NATIONAL LIST OF ELECTRONIC BULLETIN BOARD SYSTEMS AND ON-LINE INFORMATION SERVICES - SEPTEMBER 1991

SERVICE	PHONE	DESCRIPTION	SPONSOR/SYBBS	LOCATION
ADA 9X Project Bulletin Board	(800)232-9925	ADA Programming Language Revisions and News	Chris Anderson/Susan Carlson Eglin AFB ,FL	
ADA Information Clearinghouse	(703)614-0216	Information on ADA Programming Languages/Military Specs	Department of Defense Washington, D.C.	
American Cybernetics BBS	(602)968-1082	Multi-Edit Product Support BBS	American Cybernetics Tempe ,AZ	
ANARC BBS	(913)345-1978	Word Radio/TV Handbook - Short Wave Freq Lists/Scheds.	Assoc. of North American Radio Clubs ,KS	
Applied Modelling Research RBBS	(919)541-1325	Environmental Protection Agency Atmospheric Models	William Peterson/EPA Hurdle Mills ,NC	
Aquila BBS	(708)820-8344	2 GB 14 Nodes Fidonet/Interlink/Mertronet MCE IJ/CHI Graphics	Kevin Behrens/Steve Williams/Chris Babb Aurora ,IL	
Ashton-Tate Technical Support	(213)324-2188	dBase and MultiBase Support - CIS HOST NAME:ATBBS	Ashon-Tate Corporation Torrance ,CA	
AST Technical Services BBS	(714)727-4723	Super support System for AST Computer Products	AST Research Inc. Irvine ,CA	
AT&T Support BBS	(201)769-6397	Support for PC 6300 and Other AT&T PC Models	American Telephone/ Telegraph PC Division Plainfield ,NJ	
ATI Support BBS	(416)756-4591	Support for ATI Modems and Video Cards	ATI Technologies Scarborough ,Ontario	
Audiofile Network	(818)988-0452	High-end Audio Components, Music, Video Reviews	Guy Hickey/Quatre Speakers Van Nuys ,CA	
Automobile Consumer Services	(513)624-0552	New Car Pricing Reports - Used Car Value Reports	Automobile Consumer Services Inc. Cincinnati ,OH	
BBS Press Service	(913)478-2939	Home of INFOMAT Online Weekly PC News Magazine	Alan Beach/DBBS/Press Service Topeka ,KS	
BellSouth's TUG Gateway	(404)594-3984	TransText Universal Gateway - Atlanta Journal-Constitution	BellSouth Atlanta ,GA	
Best Friends BBS	(714)832-5902	DLX Multiline Chat/Match Social/Sexual	Ann and Joe Wiseman Fountain Valley ,CA	
Big Peach BBS	(404)446-6650	Home of Automen and Treeview Software	Marshall Magee/Nagee Enterprises Norcross ,GA	
Big Sky Telegraph	(406)683-7680	Education/Econ Development Info to Montana rural Communities	Montana Rural Education Network Dillon MT	
Bird Info Network	(303)423-9775	Breeding, Raising, Traming, Exotic Birds	Terry Runel/MacIntosh Users Group Arvada ,CO	
BMUG BBS	(415)849-2684	Support for Macintosh owners - files - conferences.	Boardwatch Magazine Littleton ,CO	
Boardwatch Magazine Online Info	(303)973-4222	Distribution Service for USA Today/Boardwatch/Closing NYSE	Business & Computer Book Store Willow Grove ,PA	
Book BBS	(215)657-6130	Information on 2000 Computer Books - 800 order number	Borland International/Mike Fitz-Enz Scotts Valley ,CA	
Borland Download BBS	(408)439-9096	Utilities, Macros, Programming Examples for Borland Products	Bruce Lomasky West Hartford CT	
Bruce's Bar & Grill	(203)236-3761	24-line Social System - Chat - Games - Downloads	Richard Press Yardley ,PA	
Bucks Telematics 27/3/201	(215)493-5242	Local, National, International Message Conferences	Colorado Alliance of Research Libraries Denver ,CO	
C.A.R.L. Library Service	(303)863-1350	Citations to 2 Million+ Texts in Colorado Library System FREE	Jud Newell Mississauga ,Ontario	
Canada, Remote Systems	(416)798-4713	19GB/400000+ files, 2500 Com's, USENET, IBM/Amiga/Mac & more	Crawford Communications/Daniel Crawford Cape Cod ,MA	
Cape Cod Bungalow 10/1/870	(508)759-1168	Multiline Service - Shopping Mall - Games - Tourist Info	Capital PC Users Group/Roger Fajman Rockville ,MD	
Capital PC User's Group BBS	(301)738-9080	One of the oldest PC User's Groups - 5500 members	Michael E. Connick Bradley Beach ,NJ	
Castle Tabby 10/7/4/2	(201)988-0706	Home of TABBY Fidonet Interface Program for Apple Macintosh	US Dept. of Commerce/Nevis Frankel Sutland ,MD	
Census Bureau Office Automation	(301)768-4577	Microcomputers and Office Automation	US Dept. of Commerce/Nevis Frankel Sutland ,MD	
Census Bureau Personnel Division	(301)763-4574	Employment Opportunities Within the Census Bureau	Central Point Software Inc. Beaverton OR	
Central Point Software	(503)690-9850	PC Tools - Central Point Anti-virus support board	Brian Miller/Tess Heider Cambridge ,MA	
Channel 1	(617)354-8873	45-line PCBoard System - 3.7 GB Files - 250 Msg Conferences	George Matyszek Chicago ,IL	
Chicago SysLink	(312)622-4442	Special Interest Areas for Ferret/Pet Owners/TRIS80/Aviation	Randy Suess Chicago ,IL	
Chinet	(312)283-0559	Unix System offering Internet Mail	Steve Edsall/Trader Newspaper Indianapolis ,IN	
Class Computer Fields	(317)359-5199	Online System for Classified Advertisements	American Lung Association/ Sheila Blash San Jose ,CA	
Clean Air BBS	(408)298-4277	Environmental Health/Cigarette Smoking Topics	Case Western University/AT&T/Ohio Bell Cleveland ,OH	
Cleveland Freenet	(216)366-3888	Cleveland City Information/Ohio Governor's Office Online	Brian and Patricia Dear La Jolla ,CA	
CocoNet	(619)456-0815	CocoNet Support/Demo - Hires Graphics BBS for Unix Systems	Brian Barnee Denver CO	
Comm-Post, The 104/68	(303)534-4646	Astronomy - 725+ MB of Files	Wayne Gregor San Francisco ,CA	
Compact Audio Disk Exchange	(415)824-7603	Buy/Sell/Trade Compact Audio Disks Online	CompuCom Sunnyvale ,CA	
CompuCom Customer Support BBS	(408)738-4990	Support for CompuCom SpeedModem - 9600 bps - \$279	John C. Dvorak and Nick Anis Jr. Diamond Bar ,CA	
Computer Business Services	(714)396-0014	Computer Columnist John C. Dvorak's office BBS	Miltford P. Webster Salisbury ,MD	
Computer Garden	(301)546-1508	Treasure Hunting - Metal Detectors - Online Catalog	Ward Christensen Chicago ,IL	
Computerized Bulletin Board Sys	(708)849-1132	First Electronic Bulletin Board - Creator of XMODEM Protocol	Computing Canada Newsletter ,Ontario	
Corporate Data Exchange (CDX)	(416)497-5263	Adjunct to Excellent Canadian PC Newspaper	LaFountain Research Corp/Tad LaFountain Princeton ,NJ	
CrossTalk Communications BBS	(609)683-4422	PR Newswire/ Business Wire. Logon: hello user.cdx	Digital Communications Associates Roswell ,GA	
CTC IEEE Employment Database	(404)740-8428	Product Support for CrossTalk for Windows/MK4/XVI	Career Technologies Corporation Andover ,MA	
Cul-de-Sac Bar & Grill	(508)263-3857	Online Database of 20,000 Resumes for Engineering	Pete White Holliston ,MA	
CyLink	(508)429-1784	Multiline Service - Ham Radio - Humor - DBS Applications	Klaus Dimmerl Colorado Springs ,CO	
Dante Project BBS	(719)520-5000	Online Chat/Multiplayer Interactive Games - 12 lines	Dartmouth College Hanover ,NH	
Dark Side of the Moon	(603)643-6310	Commentary/Research on Dante's Divinia Comedia	Thomas E. Dell/Darkside International Mountain View ,CA	
Data Core BBS	(408)245-7726	Home of WAFFLE, Unix UUCP BBS Software for DOS and Unix	Matthew Schoen/Delta Enterprises Los Angeles ,CA	
Data Point	(213)842-6880	25 line Major BBS	Gary Funk Fayetteville ,AR	
	(501)442-8777	Online Publications - Excellent TBBS System		

DataLink RBBBS System	(214)394-7438	Weather Satellite Imaging, NOAA Satellite Tracking-AMSAT-NA
DayDreamer BBS	886-2-31 22452	Ten Line Remote Access BBS - Largest BBS in Taiwan
Denver Deaf-Net	(303)989-9250	Hearing Impaired/Computing
DigiBoard BBS	(612)922-5604	Multipoint Serial Cards
DragonNet 386/451	(409)765-5459	Multiline MAJOR BBS with 4 GB - 64 lines Interactive Games
East Bay X-Change 372/888	(803)556-7485	Home of XRS Offline Mail Reader
Echo	(212)989-8411	New York Emulation of THE WELL - Unix CAUCUS Conferencing
Economic Bulletin Board	(202)586-8858	Economic Statistics/GNP/CP/Employment, Trade Opportunities
Electric Dialectic BBS	(708)705-6774	40 Online Game Doors - Graphic Files
Energy Info Admin E-Publications	(202)377-3877	Home of The Bread Board System (TBBS) BBS Software
eSoft Product Support BBS	(303)689-8222	Variety of Petroleum/Coal/Electricity Energy Statistics
Event Horizons	(503)697-5100	32 Line Digitized Graphics Image Library - Adult GIF files
Exactus Information Service	(707)524-2548	12,500 Amiga Files - USA Today - Closing NYSE Stocks
Exchange BBS, The	(713)521-2191	Largest Gay/Bi/Lesbian Multiline BBS in Houston
EXEC-PC	(414)789-4210	Largest BBS in US - 230 Lines - 70,000 files - 7 Gigabytes
Executive Network	(914)667-4557	Interlink Neimail National Host - Multiline PCBoard System
Eye Contact BBS	(415)255-5972	22 line Oracomm - Gay Issues - Popular Chat System
Falken Support BBS	(703)803-8000	Support for FALKEN software - 16 lines - doors - chat
Farwest BBS	(604)381-3934	Large Western Canada Galacticon Info System
FAX/Satellite Services BBS	(619)224-3855	NOAA Weather Satellite Images - Russian/Japanese Sat Plcs
FCC Public Access Link	(301)725-1072	Equipment Authorization Status Advisory Service
Federal Job Information Center	(313)228-4423	Federal Job Opportunity Lists available online
FEDLINK ALIX II	(202)707-9856	Info on Federal Libraries -Excerpis Library of Congress News
Fido Software BBS 1:125/111	(415)863-2739	The First Fido BBS and home of Fido BBS 12s
Fido Tech Stand	(31-30-7565900	Fidonet Technical Information for Holland
FOG City BBS 125/10	(415)863-9697	Gay Community BBS - AIDS Info - Desktop Publishing - MACs
Fred the Computer	(508)872-8461	Newspaper BBS. Wierden NewsWire. List of MA Libraries
GDP Technologies	(303)673-9470	Outstanding IBM Shareware on a small system
General The	(619)281-8616	Popular File Library - Compucom Modem Support Service
Gillmore Systems BBS	(818)706-9805	Support for MAGNUM BBS - OS/2 BBS Software - up to 8 lines
GLIB	(703)578-4542	Gay and Lesbian Information Bureau - 111 Lines - 9600 bps
Greenpeace Environet	(415)152-9108	Ecological and Peace Issues - Disarmament/Toxics/Wildlife
GT PowerComm BBS	(713)772-2090	Home of GT Power Communications Software
Hay Localor	(317)494-6843	Database of HayStraw Suppliers and Buyers
Hayes Advanced Systems Support	(800)874-2937	Customer Support Line for Hayes Customers. V-series/Ultra
Headland Free-net	(309)674-1100	Community Online Service - Free Internet E-Mail Boxes
HH Info-Net BBS	(215)698-1905	Reptile and Amphibian Studies - Poison Snakes/Toads/Fish
HOLLIIS	(203)246-3747	MS Windows and OS/2 Files our specialty
IBM National Support Center BBS	(617)495-9500	Harvard On-Line Library Information System - 7E1 VT100
Imaging Graphicsline BBS	(404)835-5300	IBM PC User Groups Database - Newsletter Exchange
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Index Systems	(212)989-4675	Telephone Sales Trade Magazine Online Service
Infinity World	(404)271-8558	Excellent list of Atlanta BBS systems online
InfoHost Demo BBS	(201)288-7792	Demo BBS for InfoHost BBS Software - Multiline - Database
InfoLink for Upper East Tenn	(615)434-2551	Space Database - Online Store - Chat
Intel PCEO Support BBS	(503)645-6275	Support for Intel PC Products - Inboard 386/AboveBoard 286
Invention Factory	(212)431-1194	32 Lines - 100 Directories - Good Shareware Catalog 3.2 GB
Investors Online Data	(206)285-5359	Online Investment/Stock Market Information/Tech Analysis
JAG-NET	(703)325-0748	Navy Judge Advocate General's Information Network
JDR MicroDevices BBS	(408)559-0253	Online Hardware Order - Catalog - 1.1 GB Files - Quizzes
JEFFLINK	(800)787-7000	7E1 Pilot Weather Service - NWS Data and Maps
JOBBS	(404)992-8937	Online Job Listings - 2186 Technical Pos. - 10,000 Corps.
Joe's Place BBS 1:367/16..6	(809)254-3566	Colonial Splitfire BBS in Puerto Rico
KIMBERELY BBS	(612)340-2489	Prime Rate-Fed Funds-T-Bill-Discount Rate-Economic Data
King's Market BBS 104/115	(303)665-6091	400 Mhz Books, Writers Area - TRS 80 Support
LANastic BBS	(602)293-8065	Support for LANastic local area network
Late Night BBS	(315)592-7300	Home of GENESIS BBS Software - Multinode LANable.
Late Night Software 126/5556	(415)695-0759	Home of UFGATE - Software to connect PCs to UUCP/Usenet
Leading Edge Auto Info Line	(508)838-3967	Support for Leading Edge Computer Owners
LegalEase	(509)326-3238	Legal Issues/Forms - Law BBS List
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BOARDWATCH MAGAZINE

NATIONAL LIST OF ELECTRONIC BULLETIN BOARD SYSTEMS AND ON-LINE INFORMATION SERVICES - SEPTEMBER 1991

SERVICE	PHONE	DESCRIPTION	SPONSOR/SYSOP	LOCATION
Macalor Bulletin Board	(412)846-5312	Support for Second Sight BBS Software for Macintosh	Jeff Drips/FreeSoft Company	Beaver Falls ,PA
MacInternational	(803)798-3755	Largest MAC BBS on East Coast	Ralph Yount	Columbus ,SC
Magpie BBS	(212)420-0527	Support/Demo System for Magpie BBS/Conferencing Software	Steve Manes	New York ,NY
Maxi-Micro TickerScreen	(200)809-1160	2000 Closing Stock Quotes/Market Research/Order Entry	Max Ule & Company	New York ,NY
MaxiHost Support BBS	(209)836-2402	MaxiHost BBS - small, very easy to run BBS	Don Mankin	San Ramon ,CA
Maxitor Technical Support BBS	(303)878-2020	Installation/Troubleshooting/Support for Maxitor Hard Disks	Maxitor Corp./Chris Bowers	Longmont ,CO
McAfee Associates BBS	(408)988-4004	Computer Virus Information - VIRUSCAN and CLEANUP Programs	John McAfee/CVIA	Santa Clara ,CA
METRO Online Entertainment	(212)831-9280	32 line DLX with City Guide/Ski Database - Matchmaker - Chat	Bruce Kamm/Metro Online Services	New York City ,NY
Micro Foundry, The	(415)598-0398	2.2 GB Downloads - Your Online Software Source - Boardwatch	Thomas Nelson/Clockwork Software	San Jose ,CA
Micro Message Service	(919)779-6674	USA Today/Boxoffice Magazine - Large Download Area	Mike Stroud	Raleigh ,NC
Micro-Tech BBS	(314)334-6359	Support for OSIRIS Multiline BBS Software - IRIS Mail	Micro Tech Cape Girardeau	,MO
Midlink B	(303)972-9600	Over 2.5 GB of IBM Software - Multiline - USA Today News	Girard Westerberg Littleton	,CO
Microsoft Technical Support BBS	(206)649-9836	Support for Popular RDBase Relational Data Base System	Microim Corporation Redmond	,WA
Microsoft Product Support BBS	(206)646-9145	WordWorks/Multiplan/Flight Simulator Application Notes	Microim Corp/Scott J. Honaker	Bellevue ,WA
Microsystems Software Inc.	(508)875-8009	Handiware Software for Handicapped - CodeRunner C Utilities	MSI - Reed Lewis	Framingham ,MA
Minnesota Spacetel	(612)920-55616	Minnesota Space Frontier Society - NASA News	Ben Huset	Minneapolis ,MN
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